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May 2002

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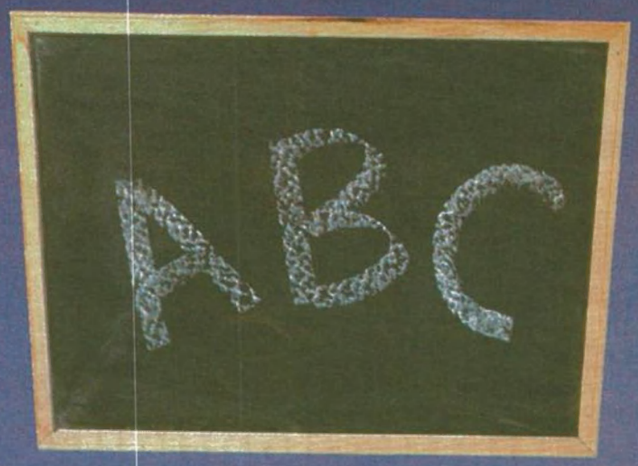

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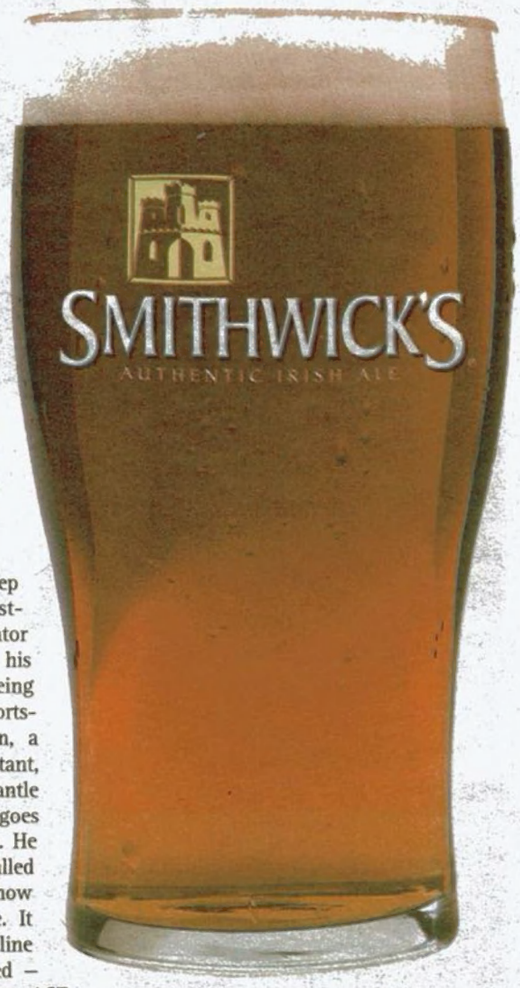
Barkeep! My glass has ordered another round!

By TOM VENETIS

Tired of waiting for the bar staff to notice that your beer glass is almost empty and a refill is in order? The Mitsubishi Electric Research laboratories in Cambridge, Mass. have developed a new beer glass that uses a microchip to signal the barkeep that it needs refilling. The technology is similar to the anti-theft tags used in shops to prevent people from walking out with the merchandise. Each beer glass is coated so that it can conduct electricity. The beer acts like a small power pack. When the glass is full it's packing a full electrical punch to the microprocessor *(Ed. – maybe it's just the alcohol talking.)*. As you drink more beer, the electrical charge drops and at a certain level the microchip will signal the barkeep that the beer glass needs refilling. The only question now will be whether to leave the tip for the bar staff or the glass.

Don't you know, Stimpy? Comic books will ruin your mind!

While comic book sales have been slumping for years, Tampa, Fl.-based Mark Alessi is betting that you will want to read your favourite comic on the Web. Publisher and CEO of CrossGeneration Comics, he believes that his comics on the Web (www.comicsontheweb.com) project is going to be the saviour of comic books. For US$1 a month, subscribers to his service will have the latest issue of the company's many comic products delivered right to their computers. And we are not talking those spandex-clad, small-brained, muscle-bound comic book heroes of old. Nope, they're too old-fashioned for this new Internet comic book world. Instead, Alessi is giving his readers comics that include science-fiction, fantasy, mystery and even the samurai epic. Tony Panaccio, the company's vice-president of product development, said Comics on the Web already has some 1,500 pages of content from about 70 issues. He said the technology behind it is Flash to reach as many people as possible.



Elvis lives!

Looks like you just can't keep the King down. An almost-famous Elvis Presley impersonator has won the right to keep his Internet domain name after being sued by a major New York sportswear company. Steven Hyken, a former "Gong Show" contestant, not only dons the King's mantle and name, but he sometimes goes by the moniker Johnny Blaze. He even has a domain name called JohnnyBlaze.com. And that is how he ran into a bit of trouble. It seems AST Sportswear has a line of trademarked clothing called – you guessed it – Johnny Blaze. AST complained that good ol' Johnny was just sitting on the domain name of JohnnyBlaze.com and not doing anything with it. AST took Johnny to the World Intellectual Property Organization (WIPO) to have him labeled a cybersquatter and evicted from the address. But Johnny got lucky and the WIPO ruled that he could keep the name – even though if you go to the site all you will get is a link to another site sporting a bizarre pitch for what seems to be an automobile anti-theft device.

Hockey, Singapore style

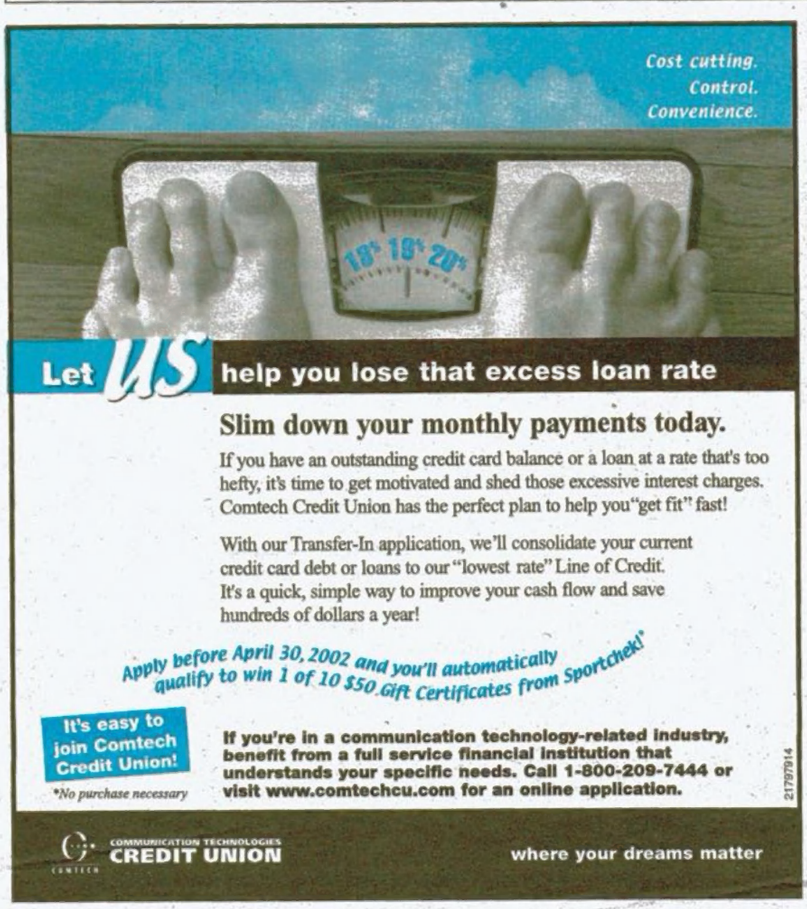
Can't get enough hockey? How about following the inline hockey league in Singapore?

Right now, inline hockey, pretty much like ice hockey except that there is no ice and everyone uses rollerblades, is the hottest sport in Singapore right now. It's so big that there is a Web site (www.inline-hockey.com.sg) for fans to follow the teams and get all the latest player and game statistics. The site also provides a forum, details of leagues and junior leagues, teams, classes and action pictures.

Seneca students to work with Oscar nominated animator

Five students enrolled in Toronto's famed Seneca 3-D Digital Animation Program are slated to work with Oscar-nominated animator Chris Landreth on a short film about the life of Ryan Larkin. Larkin was a famed animator who, in 1969, was nominated for an Oscar. By 2000, he was living on the streets of Montreal. Landreth and the students will create a 10-15 minute film that will chronicle Larkin's life and will use both live action and animation to tell the story.

The film is expected to take about a year-and-a-half to complete. Landreth was nominated for an Oscar in 1996 for his short film *The End* and won a Genie Award for his short computer animated film *Bingo*, widely regarded as one of the pinnacles of 3-D animation. ◆



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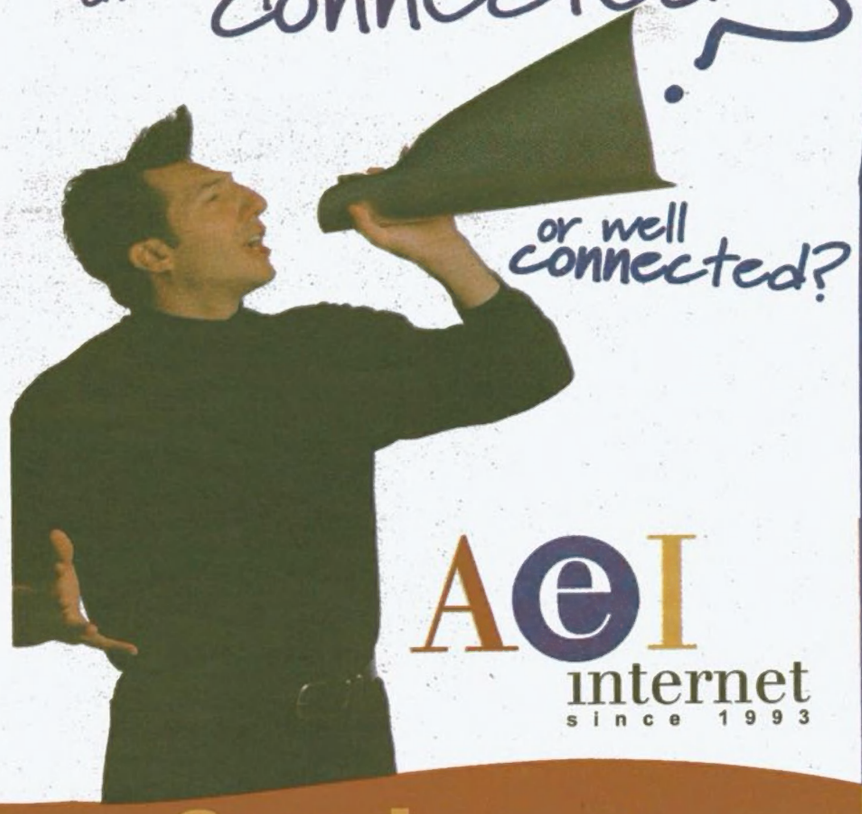

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From the editor

Toronto was blessed with a week of unseasonably warm weather in mid-April with temperatures pealing in the low 30s. Some people called this a sure sign of global warming. Others dismissed it as a freak aberration of weather. We did get snow a few days after this warm spell, after all. During this warm spell I found myself lounging in my backyard – basking in the sunlight with a cold beverage in my hand. I was surveying my domain, as it were, and making a mental list of all the projects I had to complete.

For sure there was a lot of yard work. Although the winter was mild there were many things that our yard needed. The list seems endless – rain barrels needed to be installed, things needed to be uprooted, new things need to be planted, dead branches should be pruned, etc. Looking at my garage I knew that there was work lurking inside. Although I had already taken my motorcycle out for a few rides there were still some chores that had to be done for the bike to be in optimum shape.

Inside the house, in my basement office, was perhaps the biggest job of all. I've been accumulating parts since February for a fast and reliable workhorse computer. I have the Dell Dimension 4300 computer that I use as a test bed for different software packages and configurations but I felt that I needed a second computer that would not be polluted with various settings, conflicting dll files and remnants of programs erased long ago. The computer had already been assembled with the help of a friend. A faulty motherboard was found and swapped for one that worked properly. I want the computer to have dual monitor support but the second monitor, in fact an RGB monitor from my ancient and mothballed Amiga 1000 computer, remains blank. I have yet to bring myself to go through the diagnostics, or just reading the manual, to figure out why the video signal from the video card does not go to the monitor.

Besides the video issue I am quite happy with the computer, although there are very few programs installed on it. It is blindingly fast if a little barren. But I still have to setup the MIDI on the soundcard. I have to install an Ethernet card. I have to install the printer drivers, I have to install a FireWire card. But then again, I might just use the Pinnacle card that gives me FireWire for DV but not for drives. Decisions, decisions. I still need to get a CD-RW for this computer, although I might just use the external one I have hooked up to my Mac. More decisions.

A new computer is much like a fertile untilled piece of ground. There are many options – each good, each right, and any will give satisfying results when the time comes. In some ways making the decision of what to do is more intriguing and takes up quite a bit of time.

After some more contemplation in the warm sun I got up and made a final decision. I'll plant onions in the back by the compost.

Nestor Gula can be reached by e-mailing nestor@tcp.ca ◆

Reader Feedback

What about MP4?

Geoff Martin's article on digital audio (April 2002) formats was very informative, but to my surprise, he left out the one that would seem to have the best chance of taking over the music scene.As I understand it, MP4 stores music and/or video in a format that can be reproduced as well as MP3, but on average takes 11 times less space. Microsoft's Media Player can already play this format, as can several other players now available or about to be available very soon.

Richard Dinning

Not so simple solution

As a DSL user, I always love to see Rogers make a mess of their business. I don't know anyone who has had good service from Rogers. Sorry to burst your "simple solution" bubble "Rogers makes another boo boo", (April 2002) but having Rogers change their IPs more frequently ain't going to fix the problem. What do you need you run an FTP server? Simple – a static IP? Nope. Anyone can run an FTP/Web/e-mail server from his or her PC.

There are free dynamic DNS services out there that allow users of DHCP IP addresses to run these services. Just install their software and voila!

They point your domain name to your current IP address automatically.

Jason Little

Timeline to be established

My name is Dana Harris and I work for Fleishman Hillard on behalf of Pressplay. You featured an article (March 2002) that announced that Pressplay would be launching its service in Canada in April.

We just wanted to call to your attention to the fact that this information is not accurate.

While Pressplay is committed to expanding in markets outside of the U.S., beginning with Canada and continuing in European regions after that, the company has not yet determined a specific timeline. It does expect to announce one sometime this year.

Dana Harris

Letters on issues raised in the paper or general computer topics are welcome. Please be brief. We regret that we are unable to look up stories from past issues, suggest products, or solve all your computer problems. All correspondence must include your full name in addition to your e-mail or snail-mail address. Letters may be edited for space or content.

The Editor *Toronto Computes!*
625 Church St., Suite 600, Toronto, ON M4Y 2G1 tcletters@tcp.ca

Letter of the Month

For his letter this month, Richard Dinning wins a copy of *Tony Hawk's Pro Skater 3*. This newest installment in the *Pro Skater* series lets players go online to play with up to eight players at a time. Players can take part in many different multiplayer events, including Capture the Flag, Control the Zone and Keep Away.

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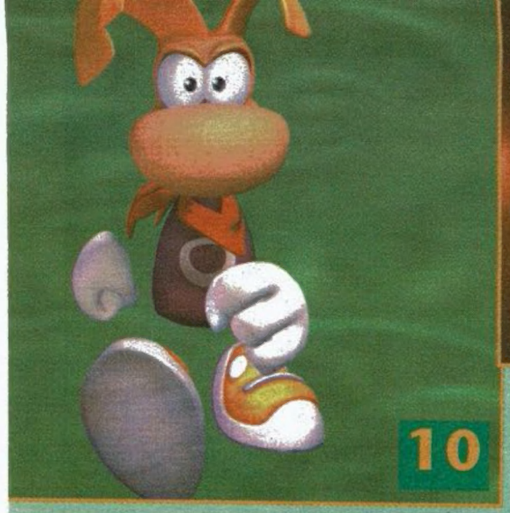

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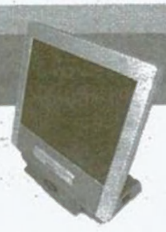

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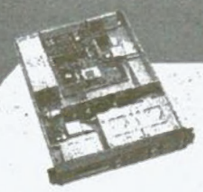

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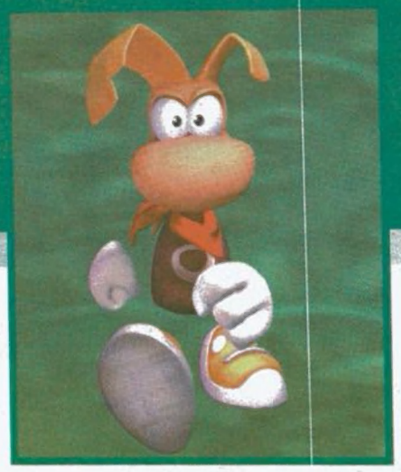
A walk through UbiSoft studios



By NESTOR GULA

For some, a dream job would be to work for a game design studio. Conceptualizing, creating and playing games for a living sounds pretty sweet. But if you really think about it, is it really such a dream job?

Just look at the complexity and detail of today's games. Real-time strategy games are extremely detailed with thousands of options and scenarios available to a solo player. Shooter games are incredibly detailed. Simulation games are brilliantly sophisticated and do everything to simulate flight or driving except transferring the relevant g-forces to the player. Then there's the aggravation of a snotty, know-it-all reviewer complaining that the artificial intelligence is not up to snuff or some other aspect of the game does not come close to perfection in his or her mind.

All the detail included in today's games does not come easily or automatically to the game developers. First off, the size of a game is huge. Games are much larger than almost any sophisticated productivity software. All this has to be programmed. Then all this programming has to be tested so the aforementioned reviewer does not fall into a catatonic snit.

Paying UbiSoft a visit

On a recent walk through the UbiSoft headquarters in Montreal, I could see the number of people it takes to create games. Located in a funky part of Montreal, there are a lot of cool things about the UbiSoft headquarters and design studios. The office is in an old warehouse and has 12-foot ceilings and gorgeous hardwood floors throughout. In terms of location, there are few better spots in Montreal. Not only is the place about a five-minute walk from the Metro Station, but it is also a stone's throw from the St. Viateur Bagel Shop – the source of the best bagels in Montreal and perhaps the world. For lunch, the best souvlakis can be had at Arahova's, also a few steps away.

Such a cool locale attracts a lot of talent and the UbiSoft offices have 450 people working full-time. Most of these people are developing games, either doing the hard programming or working on the design, animation, 3-D modeling, sound and testing. Most of the people who work here are guys – I'm told it's about 85 per cent men. The average age of the employees is 26. Some of these pups have never shaved by the looks of it. But even though I was there early on a Monday morning, all of the workstations were occupied by people staring diligently into 21-inch screens. I did not see anyone surfing the Net. There was serious work afoot.

Not all fun and games ...

Creating games is serious business. It is widely held that the computer gaming industry – this includes all the console games, as well – is larger than the Hollywood film industry. While I've never seen the figures that prove this point, UbiSoft's revenue (turnover) for the 2000-2001 fiscal year was 259.8 million euros (US$235.6 million). The company is projecting sales for 2005 to reach US$1.5 billion. Not bad for a company that started in 1986.

The main source of new game concepts comes from licensing agreements signed between the game developers and other creative types. In UbiSoft's case, licence agreements were reached with Sony for *Crouching Tiger, Hidden Dragon*, Steven Spielberg for a game based on *E.T.*, Disney for *Tarzan* and so on.

Another source for new games is found in revamping and updating old titles. Even though UbiSoft might buy the licence or recreate an older game, the game itself will go through a conceptualization phase, which involves senior people from the animation, 3-D modeling, artistic and programming studios. A large plan of action is prepared and then the game gets approval to be produced.

As expected, programming a game is a large part of the process. To save time, certain decisions are made in the planning stages that save time in the end. Dominic Guay, a lead programmer, said that "a decision is made at the initial planning stages, where it is determined what platforms the game will appear on." He adds that it makes a difference in the programming of the game as a whole. "All games are designed on a PC," he said. "Creating versions for the Sony PS2 is the most difficult, while making versions for the Xbox and GameCube is easier." He has not had any experience creating games for the Macintosh, so could not say if there was a big difference between creating games for the new OS X or for the older operating systems.

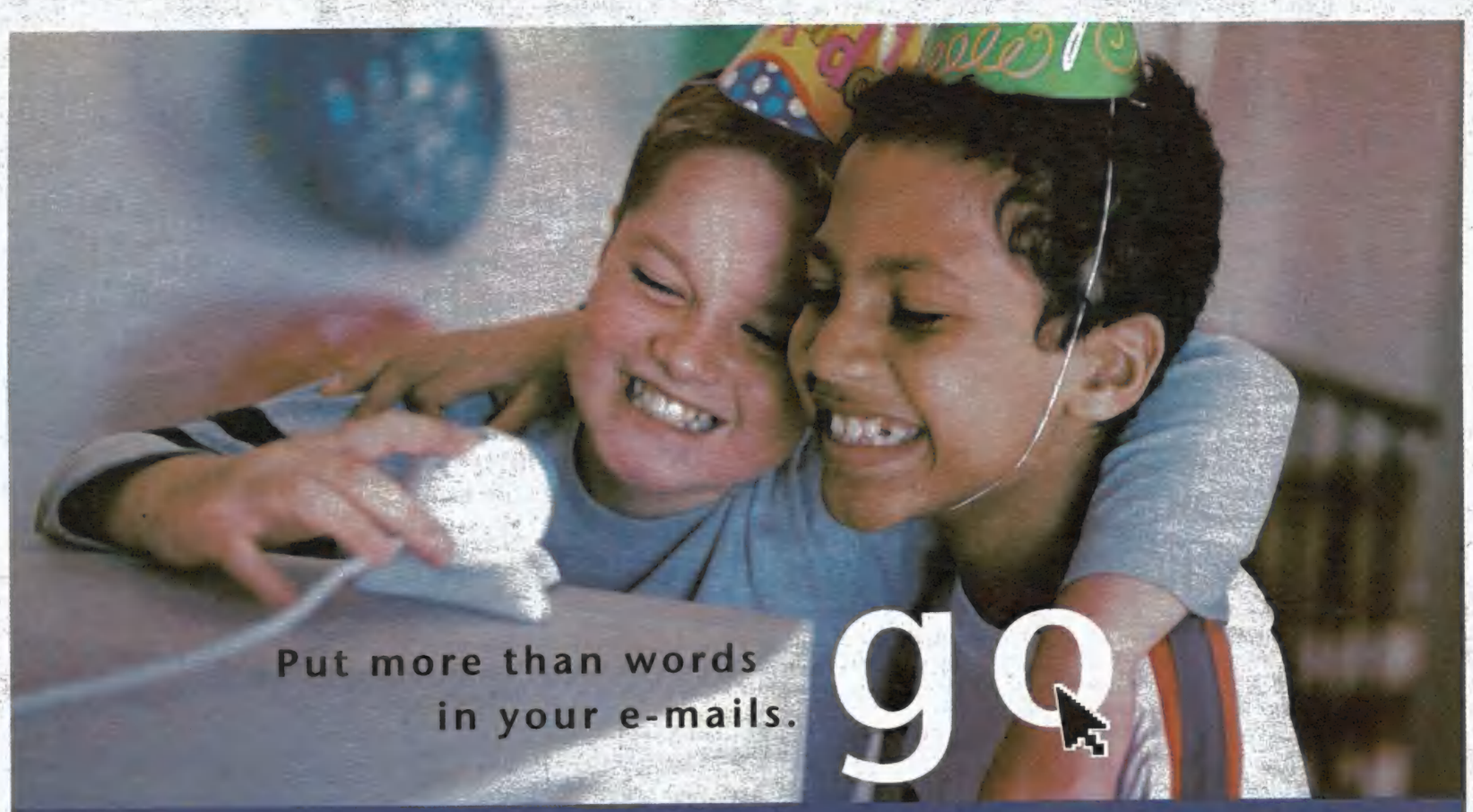
This stage also involves sound, animation, 3-D modeling and many other bits that make today's games so rich and complex. While the animation and 3-D folks work side-by-side with the programmers, the sound department has equipment that would make a few professional studios blush with envy. It even has a special studio that is just used for creating sound effects. The Canadian UbiSoft studio also has a sophisticated video department, which makes videos incorporated in the games, as well as videos for corporate and promotional purposes.

It is interesting to note that all these people get their batteries recharged after the completion of a project (games take between 18 to 24 months to complete on average.) They are given refresher courses and time to explore new dimensions of their craft before being given a new project.

Even play is work

After the games go through the production phase, they are given to the people in testing. Ordinarily there are about 100 people who work here. During the summer, 50 more people are brought onboard to put the games through the ringer. Console games are relatively easy to test, since there are not too many complications. PC games present the most problems. The game has to be tested on different motherboards, using all types of videocards, soundcards, controllers (steering wheels, gamepads, joysticks from all manufacturers) and also with other cards, such as Ethernet cards, installed to test for conflicts. Yes, you are playing games, but it is tedious work, after all – you have to write reports on what you did and record the results. There is no set time for testing. Children's games take very little time to test because they are not complicated. UbiSoft's *Rayman Arena* spent one whole year in the testing department.

After being shown the work it takes to create a game at UbiSoft, I am convinced that it is not a dream job for me. I'd rather review the finished product. ◆



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Behind the scenes at EA: The (re) making of *NHL*

By SHARLENE MYERS

Electronic Arts Canada is located in one of the hottest high tech hubs in B.C.'s Lower Mainland – with neighbours like Creo products, IBM and the British Columbia Institute of Technology. The three-year-old structure is dominated by large windows and walls faced with rock and sits on top of a hill surrounded by trees with a wide view of Burnaby. It is EA's largest studio, employing 750 people in offices and cubicles featuring the natural colours so popular on the West Coast – rust, green, gold and blue. The on-site cafeteria was recently cited by *BCBusiness* magazine as one of the best in Greater Vancouver, providing a wide variety of fresh, healthy food for breakfast, lunch and dinner.

The whereabouts of the *NHL* production team is clearly marked by the jerseys hanging from the ceiling over the tall cubicle walls. It was five o'clock in the afternoon by the time I arrived, but the office was still buzzing with activity, including a wail of "No!" from one of the cubicles – perhaps programmers suffer from computer crashes, too?

Dave Warfield is a producer for EA's popular *NHL* game, which is updated each year in time for the new hockey season in the fall. It's a process that takes all year and employs 42 people full-time, including programmers, 2-D and 3-D artists and animators, audio creators and editors, as well as the producers, who are responsible for quality control and design. And that doesn't even include the quality assurance testers, the marketing and public relations people and the sales staff.

Starting over

Often, Warfield explained, the planning for the next year's edition begins before the current year's offering has even hit store shelves. The team may have a feature they wanted to add to the current edition, but didn't have time to build it in. From here, he added, the process "starts with reviewing what we built the previous year – taking a really good look at how the game plays, what are the features we have in the game already, what was the response to it from our fans. We've got a lot of fan sites and they are not afraid to post messages about it. We get a lot of letters and e-mails talking about things they like, they don't like, what they'd like to see."

This feedback is the beginning of a wish list for the next year's game, which is expanded by ideas from the production team about what they would like to add to the program. From there, they start to prioritize the elements and narrow the list down to key features to do this year.

They also have to consider how the NHL itself changes from year to year, adding or moving teams and players. "Ideally, so long as we have enough time, we always try to get in either the latest team – which means changing schedules and a lot of other things like that – but even just uniform changes or players being traded to teams. We always try to keep on top of that and try to wait until the last possible minute so that we can get the most up-to-date pieces into the game," said Warfield.

Once they have this list, the programmers, artists, audio people and producers sit down together and try to flesh out what each of these features involves, using mock-ups of screen shots and video to provide rough prototypes of what they're hoping to do. They then break these features down into individual elements to help estimate how much time each will take and how the work can be divided among team members. Only then can they make the final decision about what's going in and what will have to wait for another year.

From concept to controller

The work is then broken down into what Warfield calls "threads." A thread is a single problem-solving element. The idea is that when a thread is completed, there is something that can be reviewed and tested on its own. Last year, for example, Warfield said, they added a feature called a break-away camera to the game. The first thread in that feature involved being able to slow down time and control the player within that slowed down time period. The second thread was to bring the camera in closer to the player and the third thread was to add the audio.

Once the threads are completed, they reach the stage Warfield referred to as "Alpha," where all the separate pieces are integrated into the game. This is his favourite stage of the process. At Alpha, the game goes into full review and fine-tuning, "looking for bugs, looking for things that could make the game play a little better, more responsive, making sure that the features are polished and completed to the best detail we can give it and getting rid of all the bugs we can," Warfield said. "We're sitting here playing hour upon hour, we have a whole QA department that's playing hour upon hour to find all the problems with the game, get those fixed and once those are done, we're done. And then we start planning for the next year."

With so many variables in play, there are a lot of things that can go wrong and cause delays. Sometimes a new element will conflict with other elements in the game and cause problems. Sometimes things will just take longer than planned. "A lot of times the tuning and tweaking of the quality level takes a lot more time than even the implementation of the feature," said Warfield.

And then there are the stakeholders to please. The NHL reviews almost every piece of the game, according to Warfield, and the NHL Players' Association does the same.

"The NHL wants to make sure that their uniforms and their game that their name is attached to and on the front of the box is representative of a product that they're happy to have go out to everybody, from kids to adults." Warfield said. "The NHL Players' Association is also looking at that, but they're [also] looking at their players, and making sure their players are reflected in a good light."

In the end, it all comes down to a deadline. For the last two to three months, while the game is in Alpha, Warfield admits he sees little of his family and sacrifices his personal life, working from 10 a.m. to midnight six or even seven days a week.

As might be expected, Warfield admits that he spends less time playing games outside of work than he used to. But the inner gamer, first drawn to *Pong* and arcade games as a thirteen-year-old, lives on. Playing games, all sorts of games, is part of his job, he said. He plays at work. His current favourites include *Grand Theft Auto 3*, *Medal of Honour* and *Agent Under Fire*. And the whole team sometimes takes breaks to play games over the network and blow off steam. "It's always checking out what everybody else is doing and being on top of the industry, I think, is a really important part of my job. And any of the producers or assistant producers have to be game knowledgeable – what are the hot things out there, what are the game players looking for and what are the features in those games that appeal to them, to see if some of that makes sense to go into our games." ◆

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Misconceptions about violence in games

By ERIK SEBELLIN

There is violence in games. This is a statement no one can question. Not all the games, not all the time and not of equal brutality; but yes, many games have at least some elements of violence.

And it is this violence that has many a parent up-in-arms, if you'll forgive the pun. But are games *that* violent? And, if they are, what can parents do to protect their children from inappropriate violence?

Are games violent?

Games run the gamut from simple mainstream edutainment designed to teach everything from spelling to how plants grow, to underground hate games. But even the simplest of games often have some violence. For example, in *NHL 2002*, rated for everyone six years old and up, you see violence in the fights between players. And in *Star Wars Racer Revenge*, children are treated to violence such as vehicle to vehicle combat.

Games for teenagers have more violence. On one hand, we have games such as the very popular *The Sims*. Here, the violence consists of characters slapping each other when provoked or tussling in a cartoon-style cloud of dust. On the other hand, we find games, such as *Command & Conquer: Renegade*. This game includes violent acts ranging from destroying vehicles to shooting and killing characters. Both games are devoid of blood.

Games designed for adults include *Counter-Strike* and *Soldier of Fortune*. These games not only include violent acts such as stabbing and shooting and killing characters, but they also include blood (although many of these types of games allow the player to specify the degree of blood and gore).

Thus far, this is as brutal as games get. However, there is one niche genre that is even more concerning than purely violent games: Hate games.

Made by white supremacists, hate games are a relatively new and incredibly distressing minority. Very easy to find online, these games, which range from first person shooters to Pac-Man clones, tend to be priced to fit a teenage budget – from free downloads to only $20 or so. These games are horrifying because they marry violence with hate. For example, in one game, players hunt North American minorities, including blacks and Jews. As opposed to mainstream games, which are designed for fun, these hateful games are developed specifically to spread bigotry, glorify the act of killing non-white people and indoctrinate teenagers into a world of hate.

Protection

So how can parents protect their children from inappropriate games? Beyond the obvious steps – talking with your children and being aware of what they are doing – parents can refer to the Entertainment Software Rating Board (ESRB) rating system.

The ESRB is a voluntary organization that assigns ratings to games. The ratings can be found on the cover of game boxes (look for a small box with black letters on a white background) and on the ESRB Web site (www.esrb.org).

There are six ESRB ratings. The Early Childhood (EC) rating is given to titles whose content contains no questionable material. These titles are suitable for children ages three and older. Titles rated Everyone (E) may contain minimal violence, some comic mischief (such as slapstick comedy) or some crude language. These titles have broad appeal and are suitable for those ages six and older.

The two ratings of most interest to parents of teenagers are Teen (T) and Mature (M). The Teen rating is for titles that may contain violent content, mild or strong language and/or suggestive themes. These titles are rated suitable for persons ages 13 and older. The Mature rating, which indicates the game includes more intense violence or language and more mature sexual themes than Teen titles, are deemed suitable for those ages 17 and older.

Titles with the remaining two ratings, Adults Only (AO) and Rating Pending are not typically found in mainstream stores.

So what's the bottom line?

We live in a society that has two major misconceptions about games. The first misconception is that most games are violent. The second misconception is that kids play most games.

The reality is, most games purchased are non-violent and purchased by adults. In 2000, Douglas Lowenstein, President of the Interactive Digital Software Association (IDSA) told the U.S. House Subcommittee on Telecommunications and the Internet that 117 of 1,600 titles produced that year were rated M for mature, with M games getting just nine per cent of total sales. And in 2001, according to the IDSA, 90 per cent of games were purchased by people over the age of 18. This amounts to more than 225 million games. Also in 2001, 18 of the top 20 best selling games of 2001 were rated E for everyone or T for Teen.

This means that with a little due diligence, parents can relax about games: Not only are most of them not the brutally violent games many parents fear, but of the games that are, most of them are not played by children.

Gaming: The horror

By S.J. ROSS

The player, acting as a male World War II U.S. Army Ranger, sneaks behind a guard, pulls out his pistol and slams it into the guard's face. The guard, with his stoic jaw and one-dimensional eyes, slides to the floor. The player, laughing with glee, moves on.

In another game, the player, this time acting as groovy female secret agent Cate Archer, catches a man in her sights and pulls the trigger. Because the blood option is turned on, the player sees a spray of blood as the body crumples to the ground. Shooting character after character, the player says it is "as much fun as a shooting gallery."

And in yet another game, the player, acting as a deity represented by a large hand, trains his pet by petting it when it is good and slapping it hard when it is bad. So hard, in fact, the animal cowers with fear.

The first game is *Medal of Honour*. The second game is *No One Lives Forever*. And the third game is *Black & White*. In the first, the violence is intimate but bloodless. In the second, the violence is bloodier (although nowhere near as gory as in even more violent games, such as *Soldier of Fortune*), but tempered with a goofy sense of humor. And in the third, the violence is comparatively minimal but is directed at an innocent being who utters heart-wrenching cries of pain.

Regardless of how bloody the violence is, whether it is perpetrated by a male or female character, and whether it is directed at a human or an animal, I am horrified. I am horrified that someone would choose to engage in an activity where the fun consists, at least in part, of hurting or killing. Most of all, I am horrified by the delight the player displays in the violent acts.

The "I" in this article refers to me. I am female. This is of note because the vast majority of video games are developed, reviewed and played by males, which means we tend to get a male perspective on all things video game, including violence. But how about a female point of view? To answer this question, at least from my perspective, I spent an afternoon with a die-hard player playing all the games I could get my hands on. And my conclusion is

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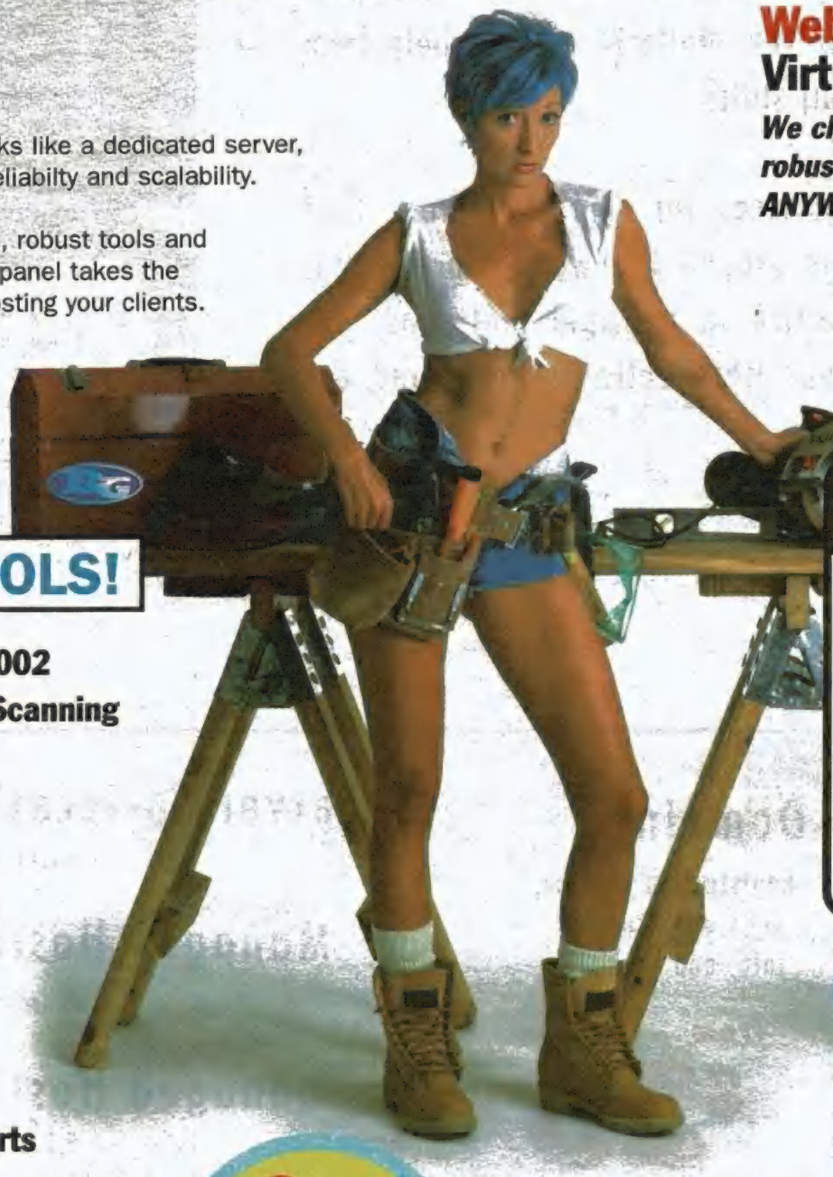

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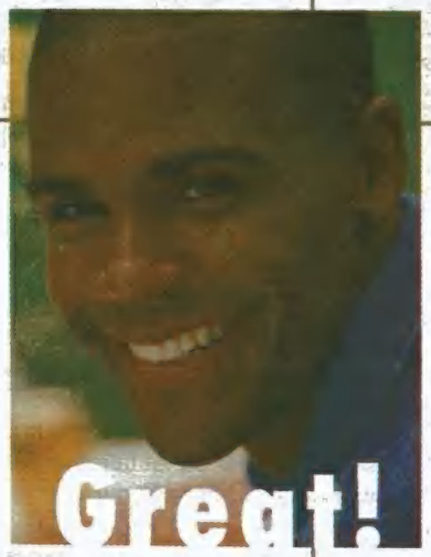

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Gaming: The horror

continued from page 16

we would have a better world without violent video games.

Ideally, we want a world of peace. A world where people turn to constructive avenues as opposed to destructive avenues to vent their frustrations. A world where people solve their differences by helping, as opposed to hurting, each other. In other words, we want a world shaped by love, not violence.

Video games do not lead us to this world. This is not necessarily bad; entertainment, after all, is not required to have a constructive purpose. But it is bad if the entertainment has a destructive purpose.

With everything from toy guns and soldier dolls to events such as WrestleMania, music with violent or hateful lyrics, slapstick Saturday morning cartoons, brutal movies and television shows and even the evening news, violent video games – and not all games are violent – are certainly not our only avenues of violence. But these video games have two attributes not found in conjunction with any other form of violent entertainment – intimacy and graphic content.

I have seen game players so intimately involved with their violent games they literally duck their heads to dodge virtual bullets and yell with delight as their bullets rip bloody holes in other characters. I have seen graphics so gory they rival my worst nightmares. And while I recognize that, for many players, the thrill is in the chase rather than in the violence, a generation of gamers is receiving training in tactical manoeuvres while learning everything they possibly can about an incredible variety of weapons, short of actually firing one.

Clearly, violent video games lead to a familiarity with violence. But the real question is, does this desensitization toward violence lead to the casual initiation, support or even participation in real life violent events?

I do not know; I am not an expert. So I turned to an expert for an answer. I turned to a die-hard gamer. This gamer, who spent countless hours every day playing a sniper in *Tribes*, did not believe that violent video games translated into real life violence. However, he did tell me he was starting to see little red triangles – symbols connoting targets – over people's heads. Only now, the heads under the triangles belonged to real people as opposed to characters. He found this quite amusing. I was horrified. ◆

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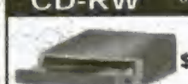

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FEATURE

Flying Montreal's ultimate flight simulator

By NESTOR GULA

The first thing that struck me about controlling the Airbus A330 was the total absence of a central yoke or wheel. There was a joystick, very similar to the one in my home, including a trigger and a second red button to my right side. I was controlling the 173 metric tonne (381,400 pound) airplane (maximum weight with no fuel) from the co-pilot's seat. The pilot's joystick was on his left-hand side. I was banking to the left to align the plane for approach to Hong Kong's new Chek Lap Kok international airport. The turbulence was not too bad, although there were thunderstorms about. Although I never really left the ground I finally had the true sensation of piloting a plane – as close to flying as I'll ever get.

Humans have not been flying for very long. The first recorded ascent from the ground upwards was a balloon flight by the Montgolfier brothers in Paris on November 21, 1783. Powered flight occurred less than 100 years ago when Orville and Wilbur Wright flew their biplane at Kitty Hawk on December 17, 1903. Not only have we not been flying for a long time, a very small percentage of humans have ever taken to the air. And most of these sojourns have been as cattle (oops! – passengers), herded and squeezed into the bowls of large commercial aircraft. Relatively few people actually pilot an airplane.

Flying a plane is expensive – very expensive. For those who realize that they will never take to the skies, flight simulators for PCs have been around for nearly as long as there have been personal computers. The first flight simulator program I used was for my Amiga 1000 back in 1986. Looking at the latest, Microsoft's *Flight Simulator 2002*, the basic commands and controls for the Cessna 172 at least, haven't changed much. The graphics are much better and there are more airports and places to fly – after all it does come on three CDs, while the Amiga version was on a single double sided diskette.

There was always something missing, though, when running *Flight Simulator*. It is the sensation of flying – the feel of g-force on your body when the plane banks into a turn, the ordinary humdrum turbulence or the bang when the wheels hit the ground on landing. Commercial and military pilots have sophisticated simulators at their disposal that not only mimic the sensation of flying but also recreate the special atmosphere of sitting in a real airplane's cockpit. Luckily, the company that is the world leader in flight simulator technology is Canadian.

Providing a safe place to crash

Located in Montreal just a short hop from Dorval airport, CAE Inc. supplies about 80 per cent of the world's flight simulator market. In an effort to diversify, CAE has made the move into providing actual aviation training. This is an astute move since the market for flight training is estimated to be between $12 and $13.5 billion worldwide. CAE is now considered to be the world's second largest independent aviation training provider. Besides designing and producing flight simulators of commercial aircraft, CAE also provides simulators and training for the military, with planes such as the CF-18 Hornet, the Tornado, the EuroFighter and helicopters such as the EHI Merlin. Not all the simulators are in the air. CAE has produced simulators for the British

Astute class nuclear submarines and the Canadian Victoria class submarines.

Sitting in the cockpit of the A330, one soon forgets that this is a simulator. Everything there is exactly like the real thing. The graphics are not exactly like in reality – although they are much better than in any flight simulation program – but you soon forget this because of the motion you feel and the realism that is around you.

The effect is like an IMAX movie. The visual system wraps around you 180 degrees. In the visual systems test bed, a non-moving simulator where the visual system is tested, you get the feeling of motion due to your senses being

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Flying Montreal's ultimate flight

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enveloped by the moving scenery. Philippe Perey, director of engineering for visual systems, said that the visuals are achieved through a collimated display system. The image is focused 30 to 35 feet away from the viewer (you are actually looking at a mirror – the screen is mounted above the simulator). Systems that cover 220 degrees of vision are already being made. Military applications are even more advanced, covering 240 degrees horizontal and 90 degrees vertical. There is no jerkiness in even the tiniest detail. The blowing snow on the runway in Greenland was very realistic. According to Perey, CAE builds their own custom image generators using ATI's Radeon chips in parallel on custom cards.

Easing this 295 passenger plane into a wide turn to align it with the runway, I could feel the nose dig in and start to pitch downward. I pull back on the stick. Whoa! The engines rev up and the plane starts to climb.

Aircraft, especially commercial passenger jets, are highly automated. Captain David R. Yavner, chief simulation engineering test pilot, guided my experience on the simulator platform. He said takeoff is the only aspect of piloting that still must be carried out manually. Pilots can switch on the auto pilot once they are between 20 and 40 metres above ground and not touch the controls until the plane has landed. Captain Yavner said most pilots perform manual landings unless the weather is very bad. When things go awry, the training and experience pay off. In a simulator, you can make any number of things go wrong and the pilot has to react to the situation. Captain Yavner simulated an engine fire on takeoff. He handled this situation calmly. There are procedures and actions performed in situations like this that can never be done by a computer.

Simulator as amusement park ride ...

Being the kind of person that I am, I ask Captain Yavner to do a barrel roll on the A330. He doesn't blink. He turns around and punches a few keys on the simulation computer at the back of the cabin and we are instantly located 10,000 feet above the South China Sea a few kilometers outside of Hong Kong. He turns off the safety features of the plane's control system and does a barrel roll. The sensation is realistic to about 65 per cent of the way. You get it going up-around and down-around. The only thing missing was the upside-down feeling.

The one thing these simulators can't really simulate is sustained g-force loads. There is only so much movement in the simulator (68 inches up and down, 120 inches side to side and back to front). It will give you a bit of the initial g-force but won't give you that sensation for very long. Gerhard Serapinms, manager of research and development for commercial simulation and training explains, "long turns can't really be simulated because you can't really simulate the sustained g-force limits given the range of motions of the simulators."

We are coming in for a landing. The visibility is zero. Well, about 100 metres – consider that we are travelling at about 260 kilometres per hour, so 100 metres is practically zero. The landing sequence is automated, so Captain Yavner is monitoring the gauges and waiting for the airport to come into view. The plane's computer starts the countdown to landing before we see anything. "Three. Two. One. Retard." The plane did not express its contempt for the pilot – this is the word Airbus chose to tell the pilot to put the engines to idle.

The landing is perfect. I leave the cockpit and from the Hong Kong airport I find myself on the floor of CAE's Montreal factory. It was a good trip. ◆

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Musical Odyssey: Sounding off with MI

By NESTOR GULA

The term MIDI is often confused with digital audio. MIDI, which stands for Musical Instrument Digital Interface, is just a computer language that transmits information between musical instruments. This information is primarily what note the receiving instrument should play and for how long and with what intensity and colour. There is other information that MIDI can also send, such as system specific messages that tell the machine to switch to another sound or to change parameters of the instrument – for example, switching between mono and polyphonic modes. But how do you generate these messages to make your computer, or keyboard, play some notes?

A synthesizer with MIDI is both a musical instrument and a MIDI controller. A simple MIDI hookup is two synthesizers connected, with one having the MIDI cable in the MIDI-OUT port and the other in the MIDI-IN port. The first synthesizer is called the master, while the latter is the slave. The master synthesizer must have its MIDI-SEND set to the same channel as the slave's MIDI-RECEIVE. I have this set up in my home. My DX7, which is polyphonic but only monotimbral, meaning that while it will play many notes at the same time it only plays one sound, is connected to a TX7 sound module (basically a DX7 without the keyboard). When I hit the middle C on my DX7's keyboard, I will hear two sounds both playing the middle C. The DX7 is controlling the functions of the TX7. Incidentally, the DX7 and TX7 are synthesizers made by Yamaha in the late '80s that use FM modulation to produce sounds.

When I want to record some MIDI tracks on my home recording studio, I connect the MIDI cable between the MIDI-OUT port on my synthesizer and the MIDI-IN port on my computer. The notes I play on the keyboard are recorded by the recording software as raw information. There is no sound associated with it. I can change the sound of what I played using the software. If I played something and it sounded like a piano, it is really no problem to switch it to birds chirping or tubular bells or a funky bass sound. There are at least 128 sounds in the General MIDI synthesizer that is in the soundcard of every computer. If you have more sophisticated software that allows you to have plug-ins of virtual synthesizers, which mimic the sounds of "real" synthesizers, then you will have a limitless supply of sounds.

If you have a MIDI track recorded on your computer and would like it to be played on your computer you would reverse the position of the MIDI cables. In this case the computer is the master while the synthesizer is the slave, and what you have on the computer will be translated by the synthesizer to sound. If you have a particularly intricate MIDI track on your computer that you want to record using the sound of your stand-alone synthesizer, you will need to attach audio cables to your synthesizer and have your software record the sound as digital audio.

While controllers tend to be keyboards, they do not always have to be so. There are guitar MIDI controllers and even controllers made from woodwind, brass and various stringed instruments. Artist Laurie Anderson used to have a jacket wired up with switches, which she would hit, triggering a MIDI device. I've used my drum machine as both a MIDI controller and a MIDI-slave.

Synthesizers are popular as MIDI controllers simply because they are so versatile. They have a keyboard for entering notes, wheels and buttons for adding colour and texture to the notes – this is a MIDI recognized function, and they create great sounds, much better than most computer's General MIDI sounds. If you do not have any keyboard skills and do not want to learn any, you can still benefit from the great synthesizer sounds by using a sound module. As described earlier, this is a synthesizer without the keyboard. You can manually compose whatever you like in most recording software packages or use special notation software, and when you hit play, after making sure all the cables are connected properly and the settings set just right, you will hear what you composed.

1ST EVER COOL TUNES CONTEST

presented by Toronto computes!

the technology lifestyle magazine

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RULES AND REGULATIONS

1. You may submit up to three (3) original compositions. Each composition submitted must be your own original work. Compositions may not exceed five (5) minutes in length. A completed and signed application must accompany each entry. Contestants must submit all entries in MP3 format and burned on a CD. CDs will not be returned. Compositions previously recorded and released will be disqualified. Compositions using samples of previously recorded material will be disqualified unless accompanied by a release waiver from the original artist.

2. This contest is open to amateur unsigned acts. All genres of music will be considered. Employees and families of Toronto Computes!, its parent company, subsidiaries and affiliates are not eligible. Contestants must be Canadian citizens or have landed immigrant status.

3. Winners will be chosen by a select panel of judges and will be judged based on melody, composition and lyrics (when applicable). The quality of performance and production will also be considered.

4. The first place winner will have first choice from the prize pool. The second place contestant will have the remaining prize. Honourable mentions will be awarded as the judges see fit.

5. By submitting compositions and the signed entry form to this contest the entrant claims that their composition is original work and he/she holds all rights to the composition. The contestant also agrees to give Toronto Computes! its parent companies and subsidiaries the non-exclusive right to use the compositions for future advertising and publicity purposes without additional compensation for a period of two (2) years from the date of the contest's closing date.

7. All entries must be postmarked by 5 PM EST August 2, 2002. Winners will be chosen by August 16, 2002. Winners will be contacted for their choice of prize. Results will be announced in the September issue of Toronto Computes!

8. All decisions of the judges are final.

9. Mail entries to Toronto Computes! Cool Tunes Contest 525 Church St., Suite 600, Toronto, Ont., M4Y 2E1

APPLICATION FORM

Name: .....
Address: .....
Postal Code: .....
Phone: .....
E-mail: .....
Age: .....
Occupation/School: .....
Title of entry: .....
Equipment used to record .....
Composition: .....
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Digital Shots: Getting and making prints

By CHRIS TALBOT

It's one of those sad but true realities – most digital photographs are never seen by anybody but their creator. Once the photos are snapped and transferred to a hard disk or backup medium, they are left to the evils of obscurity in electronic heaven, which begs the question: What was the point in taking the pictures in the first place?

No matter how you display your photographs, you should drill the one cardinal rule of photography into your head: Pictures are meant to be seen. Take a look around your house, your parents' house, friends' homes, etc. Framed pictures clutter mantles, end tables and the like. If you look carefully (or ask), there are probably photo albums filled with hundreds of pictures scattered around as well (but remember, if your buddy drags out his 10-pound vacation albums, you deserve what you get).

The Web masters among our readership will probably send me nasty e-mails stating they share their pictures with the world, and who am I to argue? One acquaintance of mine has archived more than 500 photos on his Web site. We'll look at creating a Web-based photo album another month, though.

There is a good argument for making and displaying prints (at the very least in your home), something film photographers take for granted and most digital photographers don't take advantage of. Chances are, you don't have a darkroom or a photo processor in your home, but you probably have the two most basic pieces of technology for making prints – a computer and a printer. Depending on the printer, you might not even need the computer. Some photo quality printers on the market are capable of reading CompactFlash or SmartMedia memory cards and printing directly from them.

Do it yourself

The first option for making prints is to do it yourself at home. If you were shooting film, you'd require a darkroom with all the bells, whistles and acids involved in making your own prints come to life. You can be thankful that you're working with the latest and greatest technology has to offer, so a darkroom isn't even recommended.

What you will need is a computer and a printer. The specs on your computer won't matter too much. Anything more or less recent should be fine. It's the printer you need to worry about. Not just any old printer will do.

When looking for a printer, the words "photo quality" are key. If a printer can't print photo quality images, then you probably won't be happy with the results. A colour inkjet printer might do wonders with those Garfield comic strips you've been printing off the Web, but photo quality images require a special kind of ink. Many inkjets come with the ability to use photo-quality ink cartridges, which are easily swappable with the regular colour ink cartridges. Just make sure the right one is in there when you start to print out your pictures.

Printing images isn't quite as easy as one-two-three, but close enough. The first thing you need to remember is to set your resolution properly. Resolution, the quality of the image itself, is usually measured in dots-per-inch (dpi). Images stripped off the Web are typically not suitable for printing because they have (or should have) a resolution of 72 dpi, which is what most monitors have as a maximum resolution.

On paper, though, pictures should be printed with at least 200 dpi, and preferably 300 dpi (this is what magazines and newspapers use). Using 300 dpi should, depending on the printer, give you a nice, clean image on paper.

All of the major printer manufacturers make good photo-quality colour inkjet and laser printers. Unfortunately, the most persistent problem is in the archivability of photographs. What that means is, if you took a photo printed on an inkjet printer and held it under a light source for years, the colour would fade and the image would eventually look terrible.

Some printer manufacturers claim they have printers that greatly increase the archivability of prints. Many of these, like Xerox's line of solid ink printers, are out of the price range of the average person, though.

Hire the pros

Archivability isn't as much of an issue with professional prints (i.e. photographs). Typically, you can hang a print on a wall and its colour will outlast you ... and maybe your children's children, as well.

Dropping off a roll of film and picking up a set of prints one, three or five days later is something most photographers are used to. Although print developers are just starting to advertise the fact that they do indeed print digital photographs, many of them have been doing it for some time. Best of all, it's about the same price as getting a print made from a negative.

Also, the printers used in processing labs are high-end units. They can pump out hundreds or even thousands of photographs per hour with superior quality. If you have a digital shot with a high enough resolution, it might look like a film print when it's returned to you. ◆

Tested: Fujifilm FinePix 2800 Zoom

By CHRIS TALBOT

The Fujifilm FinePix 2800 Zoom is a compact, lightweight camera capable of taking still images or short video clips and is able to double as a Webcam on Windows platform computers.

As part of Fujifilm's mid-range digital camera line, the 2800 Zoom is a 2.1 megapixel camera that has 6x optical zoom, 2.5x digital zoom and a 1.8-inch LCD display. Other features include 60-second video clips captured in AVI (compressed JPEG) format, 30-second voice captioning and *Adobe PhotoDeluxe 4.0* software.

Despite its small size and box-like shape, the 2800 Zoom offers a comfortable grip and is easy to use out of the box. The unit uses SmartMedia storage cards (a 16 MB card is included) and requires four AA Alkaline batteries for operation. Overall, it's a good, compact model you could use to capture decent snapshots.

I particularly like the attempt by Fujifilm to simulate a single lens reflex (SLR) eyepiece. Looking through the eyepiece (or on the LCD display if it's on) will show you exactly what the lens sees. The menus on the camera are fairly easy to navigate, but the placement and design of the directional buttons could have been better. Instead of the three directional buttons on the unit (left, right and up/down), I would've preferred either four buttons (like the arrow keys on a keyboard) or one button (like the directional button on a gamepad). None of the above reasons are enough to discount the FinePix 2800 Zoom as a good mid-range camera, though. For snapshots, it'll do the job. At 2.1 megapixels, however, it won't be enough power for the serious hobbyist. For vacationers, I'd recommend it for its size and weight (9.5 ounces).. It's priced at $790, but set aside at least another $50 to $100 to pick up a bigger memory card. ◆

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Adventures in digital video: Home movies don't have to elicit horror

By NESTOR GULA

In the past, when you would suggest to guests that you would like them to see a home movie or video, the reaction was usually one of horror. In some cases, the guests might even be offended. Of course, being Canadian, we would usually meekly trudge down to the rumpus room and endure the unendurable – hours upon hours of badly shot, badly lit, unedited footage, with the host explaining what you should be seeing.

Editing suites for analogue video or film were costly and required extensive, and expensive, training to operate. Some analogue camcorders let you do basic editing and titling. This was not only cumbersome and difficult, the results were feeble – they reflected badly on the amount of work you had done. Most home movies and home videos have never been edited and thus are rarely watched.

In speaking with Ralph Bond, the consumer education manager for Intel, we agreed that the era of bad home movies has ended. We are now living in an era where home videos can be relatively short, well paced and (gasp) exciting and interesting. They no longer have to be viewed on a computer monitor or transferred to a VHS tape. They can be played on your home theatre's DVD player, the home movies' digital fidelity preserved by authoring a DVD or VCD (Video Compact Disc).

The biggest problem for the acceptance of DVD authoring is the cost. Bond said that the cost of both the DVD-R drives and media have fallen quite dramatically. Currently the price of a DVD-R hovers around $700 at the bottom end of the scale. Blank media costs about $20 per disc, although Apple has a deal that packages five discs for $40. (Note: These have been massaged and cannot be duplicated.) Bond is bullish on DVD authoring but admits that the cost will discourage mass acceptance just yet.

Most people now, and for the next year or two, will only have the VCD option open to them. Bond has had mixed results with VCDs. "I've had some VCDs that look terrific and others that looked terrible," he said. "I used the same equipment, same software, same everything and I can't figure out why some look great and others horrible."

As for all the VHS tapes languishing in the basements and on the bookshelves of the world, Bond said people should convert them all to digital format, offering suggestions for various ways to do this. There are services that offer to take your VHS tapes and transfer them onto a DVD. "The service is

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good," said Bond, but "Do you want to send the only copy of your wedding tape in the mail?"

There are also devices that will allow you to do the conversion. Dazzle is a stand-alone box and retails for about $500. Pinnacle's DV500plus (See review in *Toronto Computes!* March 2002 issue.) will also do this, as will Pinnacle's *Studio Deluxe* (a much more affordable solution) and other hardware/software packages. "For me, the best way is the digital video camera," said Bond. "I don't think most consumers appreciate the implication of this product. It is not just a digital replacement for your analogue camcorder. It is the best analogue-to-digital shuttle there is."

Editing is getting easier, as well. "One thing I have to say is that the Apple guys did it right, and did it right from the beginning," said Bond. "They had a software environment that let you record to the hard disk, edit and burn to the CD/DVD in one holistic software environment." He said that until the end of 2001, to achieve this on a Windows PC you had to flip between various applications. "Now there are single programs that are extremely simple," he said. "The trade-off is you trade away editing power." These programs don't have the editing power of *Adobe Premiere* or Apple's *Final Cut* but are fine for simple editing and making your home videos look presentable to everybody.

There are really no more excuses to have bad home movies and no more reasons for having people dread the invitation to watch home video. If you have a half decent computer (about 700 MHz or higher) you don't really need to spend all that much to create something that will withstand scathing criticism; something you can watch proudly years hence. ◆

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64Mb Radeon 7000 SDR 3D Video
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16xDVD-ROM EIDE
1.44Mb Panasonic Floppy Drive
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3 Button Mouse
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Altec Lansing AVS200 Speakers
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Satellite 6000PRO	P3/ 1Ghz	14.1"TFT	256Mb	56K/Lan	20Gb/DVD	$2699
Satellite 6000PRO	P3/ 1.13Ghz	15.0"TFT	256Mb	56K/Lan	30Gb/DVD	$3189
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Panasonic 24x/10x/40x CDRW w/Soft.....$149
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IBM X-Series 10K 18.4 /36.4Gb.....$459 / 699
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Kodak DC3215 Digital 2xD-Zoom Camera 1.3MGP.....$279
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Logitech ClickSmart 310 Digital Camera USB.....$119
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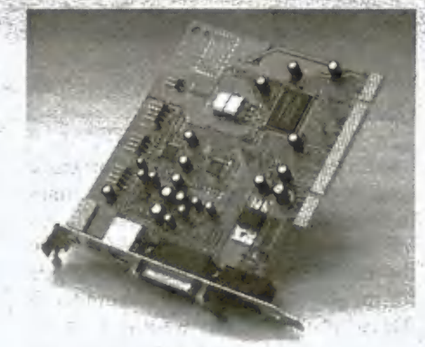
Soundcards: 16-bit and beyond

By HAROLD LASS



Time was when computers were mute (except for occasional beeps from an internal speaker on the motherboard). With the advent of soundcards (or sound boards) in the '80s, though, the talkies had arrived and suddenly computers weren't only number crunchers. They'd become entertainment centres. Virtually every computer these days ships with a soundcard and a set of speakers to "enhance" the computer experience.

The process of recording sound comes down to 1s and 0s, as usual. Basically, to record, a microphone jacked into the card picks up the sound (your voice, for instance) as an analogue signal.

A chip in the soundcard converts this analogue signal to a digital output (the binary 1s and 0s – the language of computers). The digital output is compressed, sent to your computer's processor and ends up on your hard drive as a .wav file.

To listen to this (or any other) .wav file, the process is reversed. The digital .wav file on your hard drive is sent to the processor, then to the soundcard to be converted to an analogue signal, which is then picked up by your speakers or headset.

So much for recording and playing sound. Now, if all soundcards perform these two basic functions, are some better than others? You bet. Fact is, not all soundcards, well, sound alike.

The importance to you of audio quality and card versatility will determine what kind of soundcard you might be after; do you want gaming audio with 3-D sound (so you know where the next ambush is coming from)? Studio quality recording and playback capabilities including special effects and MIDI support? Full music listening pleasure? Or do you just want to be able to hear the sound?

If you're only after the ability to hear sound and nothing else, then all you need is a relatively inexpensive 16- or 32-bit soundcard. The terms 16-bit and 32-bit refer to the bus structure of the card. A PCI 32-bit soundcard can process more bits of information at a time than an ISA 16-bit soundcard. PCI bus soundcards are preferable because the ISA bus is becoming obsolete.

The name most often associated with sound cards is SoundBlaster by Creative Labs because it was one of the first. But Creative Labs is not the only manufacturer. AOpen, Philips, Hercules, Zoltrix, Turtle Beach and VideoLogic are some others.

For a brief overview of cards, one place to start is About: Rick Russell's Guide to Sound and Audio.

If you're a hard-core gamer, you'll want something more than a generic soundcard, though. Gamers Depot highlights some of the more popular gamers' soundcards of choice.

For each card named, the site provides a link to the manufacturer, reviewers' impressions of the card, the features, specs, installation, pros and cons and a final rating. I love their rating system – the "drool" award. Five drops means it's tops.

Of course, you could go for versatile high-end performance and get your hands on the SoundBlaster Audigy Platinum eX (external drive). According to Creative Labs, it features "up to four simultaneous audio environments in real time, a natural audio transition from one environment to another with real-time morphing of each audio environment's characteristics, 3D spatialization and localization of an upcoming or distant environment and 3D sound imaging in both multi-speaker systems and headphones, allowing you to find and frag your opponents quickly." Ah yes, it also features a hefty price tag ($399.00 external model/$319.00 front panel internal model)

Soundcards are regularly reviewed by us and the reviews can be found at www.canadacomputes.com.◆

more INFO

About: Rick Russell's Guide to Sound and Audio: peripherals.about.com/cs/soundandaudio/
AOpen: www.aopen.com/products/sound/default.htm
CNet Sound Card Reviews: computers.cnet.com/hardware/0_1106.html?tag=stbc.gp
Creative Labs: www.americas.creative.com/
Gamers Depot: www.gamersdepot.com/sound_cards.htm
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SysOpt.com: Sound card user reviews: www.sysopt.com/userreviews/products/sound.html
Turtle Beach: www.tbeach.com/site/
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Graphic cards for game hounds

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actually sports better performance, for the most part. During our benchmark testing we noted that while the GeForce4 MX edged the GeForce3 at 1,024x768 with 32-bit colour and no anti-aliasing, the GeForce3 gained a fairly noticeable edge when anti-aliasing was turned on. This is because the GeForce4 MX cards don't incorporate the same level of new technology that the GeForce4 Ti series does (no pixel shaders or vertex shaders, for example).

What the GeForce4 MX series does add, though, is nView multi-monitor support (generally in a VGA/S-Video combination), Lightspeed Memory Architecture II (here in a more stripped-down form than the GeForce4 Ti sports), VPE (or Video Processing Engine, which adds hardware support for DVD playback) and Accuview anti-aliasing technology.

While nVidia's claim was that turning anti-aliasing on wouldn't be a huge performance hit, that's not necessarily as true with the MX models as nVidia would seem to indicate – the benchmarking numbers dropped substantially as soon as the anti-aliasing was engaged. The feature is far more effective when you move to the Ti series.

Where the MX cards come through is in price. The performance is still reasonably good, mostly rivaling the higher-end GeForce3 and older GeForce2 Ultra cards, but the entry-level price makes them quite attractive overall. We looked at a pair of cards using the MX440 GPU, though there are GPUs bracketing the 440: The MX460 offers better performance, while the MX400 and MX420 processors will provide much more modest performance at a bargain-basement price (as low as US$50) when they are finally introduced into the market.

eVGA.com e-GeForce4 MX

From: eVGA.com Corp.

www.evga.com

Estimated price: $250 (converted from US$160)

- GeForce4 MX 440 GPU.
- 64 MB DDR.
- AGP 4x/2x.
- VGA, S-Video out (comes with cable).
- 2,048x1,536 maximum resolution.
- Comes with *Commanche 4* trial version and *CyberLink PowerDVD*.
- Compatible with Win98/ME/NT/2000/XP.
- One-year warranty.

First thing you notice when you get this card out of the box is the big yellow fan bracket, known as the eVGA Asymmetric Cooling System, a playful touch on a fairly serious card. (Even before you get the card out of the box, you can see what it is through a window on the back, so you can verify the card is legit before you even take it home.) As a lower-end GF4, the e-GeForce4 MX is still pretty impressive, outperforming the reference GeForce2 Ultra by a substantial margin at most settings (remember that the MX is the value line and the GF2 Ultra was high-end not too long ago).

If you like playing games, but don't need insanely fast fill rates, this card still certainly provides a lot of performance at a pretty good price.

MSI G4MX440

From: Micro-Star International

www.msicomputer.com

Estimated price: $190

- GeForce4 MX 440 GPU.
- 64 MB DDR.
- AGP 4x/2x.
- VGA, S-Video/composite out (comes with cable).
- 2,048x1,536 maximum resolution.
- Comes with *MSI DVD, No One Lives Forever* (full version), *Aquanox* (full), *Sacrifice* (full), a 7-in-one games collection and a utilities disc.
- Compatible with Win95/98/ME/NT/2000/XP.

MSI has recently claimed the title of "Worldwide No.1 VGA Card Manufacturer" (something that we may not have realized here in Canada because the cards are perhaps not as widespread as, say, ATI's), and the addition of the GeForce4 cards to its line only add extra sales potential. The G4MX440 card will be certain to move units, too, because the performance is right at the GF4 MX level and the price is right.

This model features a gold cooling fan as its only embellishment ... otherwise

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Graphic cards for game hounds

By SEAN CARRUTHERS

One of the must-have items for hard-core gamers is a high-performance graphics card, and it's a good time to be looking for one: NVidia has recently announced the GeForce4 line of graphics processors and ATI's Radeon line continues to expand.

We've rounded up a smattering of new cards this month, and have put them through their paces using MadOnion's *3-DMark 2001 Special Edition* 3-D benchmarking software (www.madonion.com). The test bench featured an AMD AthlonXP 2000+ processor, 256 MB DDR memory from Crucial (www.crucial.com) and the Shuttle Spacewalker AK35GT-R motherboard. We tested all cards using Windows XP Home Edition.

ATI Radeon

Canada's own ATI remains one of the big players in the graphics market thanks to its Radeon line of cards. While the cards aren't necessarily the best performers out there, they are nonetheless high-performing cards that come in at a much more justifiable price point. ATI also gets high marks for being the first company to really run with dual-monitor capability in a gaming card – while fellow Canadians Matrox were the first to introduce dual-head capability for the general consumer audience, those cards were more suitable for business and productivity apps, and were not a great choice for gamers.

One thing that's changed: In the past, ATI was the sole manufacturer of graphics cards containing ATI technology, but that's recently changed: Now you can also find Radeon cards under the Hercules and Gigabyte brands, among others. It's an interesting change of strategy and it will be interesting to see how that pays off for ATI.

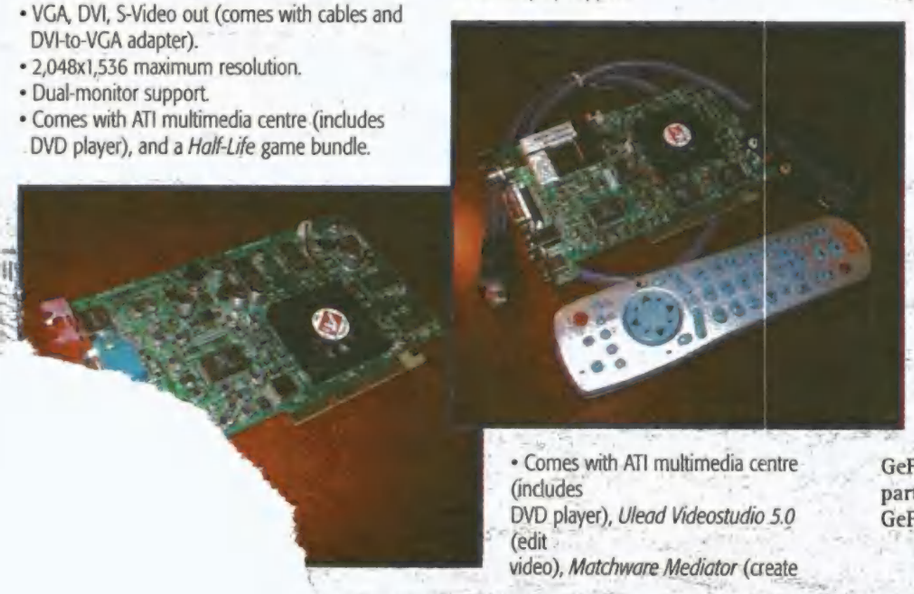
ATI Radeon 7500
From: ATI Technologies Inc.
www.ati.com
Estimated price: $250
- Radeon 7500 GPU.
- 64 MB DDR.
- AGP 4x/2x.
- VGA, DVI, S-Video/composite out (comes cables and DVI-to-VGA adapter).
- 2,048x1,536 maximum resolution.
- Dual-monitor support.
- Comes with ATI multimedia centre (includes DVD player).
- Compatible with Win98/ME/NT/2000/XP.
- Three-year warranty.

Even at the more modest end of the Radeon line, you have fairly good performance: The Radeon 7500 holds its own against both the GeForce3 and the GeForce4 MX line, performance-wise, but adds dual-monitor support on the card in practice as well as principle by including the DVI connector and a dongle for use with monitors with the older VGA connector. (By contrast most of the GeForce4 MX cards we've seen specs for simply include one VGA connector and one S-Video out, which the Radeon 7500 also sports.) Arguably, the card is basic, with a smaller data pipeline, lower performance than the 8500 and a smaller software bundle (though it still comes with the DVD player other ATI cards come with). From a price perspective, the 7500 is one of the better choices, if you want to balance lower cost with reasonable performance. Those who want something better-suited for high-end gaming will want to move up to the 8500 or take a look at the more expensive GeForce4 Titanium line.

ATI Radeon 8500 64MB/128MB
From: ATI Technologies Inc.
www.ati.com
Estimated price: $450
- Radeon 8500 GPU.
- We looked at the 64 MB DDR version.
- AGP 4x/2x.
- VGA, DVI, S-Video out (comes with cables and DVI-to-VGA adapter).
- 2,048x1,536 maximum resolution.
- Dual-monitor support.
- Comes with ATI multimedia centre (includes DVD player), and a *Half-Life* game bundle.
- Compatible with Win98/ME/NT/2000/XP.
- Three-year warranty.

Sitting on the top of ATI's performance heap is the Radeon 8500, which comes in both 64 and 128 MB versions; the 64 MB card is a slightly older model and the 128 MB version should be available for roughly the same price, according to ATI, so you'll probably want to hold out for the 128 MB unless you can get the 64 MB version at a good price break. The 128 MB version will also outperform the 64 MB version slightly and the 64 MB version (which we tested) already holds up pretty well compared to the Titanium version of the GeForce4. At $450, it seems a bit pricey until you look at the GeForce4 cards, which are sometimes running the same cost but in U.S. currency (about $650 Canadian).

ATI All-in-Wonder Radeon 8500DV
From: ATI Technologies Inc.
www.ati.com
Estimated price: $629
- Radeon 8500 GPU.
- 64 MB DDR.
- AGP 4x/2X.
- DVI, and breakaway box (composite in/out, S-Video in/out, stereo audio in/out).
- DVI-to-VGA dongle included for use with standard monitors.
- Two FireWire ports (one on card, one on breakaway box).
- RF remote control included, as well as USB receiver.
- 2,048x1,536 maximum resolution.
- Dual-display support.
- Comes with ATI multimedia centre (includes DVD player), *Ulead Videostudio 5.0* (edit video), *Matchware Mediator* (create presentations), *Guide Plus+* (TV programming), as well as a pack of *Half-Life* games.



If you're looking for the full-meal deal, it's still pretty hard to beat ATI's All-in-Wonder line, which was the first consumer-level card to bring video and TV right onto the card and is still the most popular all-in-one. To save space, the card dispenses with the VGA connector in favour of DVI, instead providing a dongle in the box for those who want to use their analogue monitor. The back of the card also features one FireWire port, the CATV connector and an interface for the breakaway box, which adds the rest of the audio/video connectors. All of this is fairly impressive, allowing you to hook up your cable TV connection, your VCR or DVD and your DV cameras, but it's the software that comes with the card that makes it truly impressive. As with previous models, the software bundle includes a program that allows you to "pause" live television – essentially switching you from live TV over to hard drive recording and then replaying from the beginning of that recorded file when you return – as well as turning your PC into a "digital VCR" by recording programs at specific times. The inclusion of DV ports on this card is also a huge plus, allowing you to attach other FireWire devices, like an external hard drive. So, how much gaming performance do you have to give up for all of these extra features? Not much, as it turns out. Compared directly to the Radeon 8500 basic model, which this is based on, it scores lower, but it's still far and away better than the GeForce 2 and 3 models, and outperforms or equals GeForce4 MX models in most areas. The biggest thing you'll have to give up is a wad of extra cash, but with all the added multimedia functionality, it's not quite as hard to take as you'd think ... and it still comes in cheaper than the highest-end GeForce4 cards.

NVidia GeForce 4 MX

If you've already gotten a GeForce3 card, chances are you won't particularly need the MX version of the GeForce4 line because the GeForce3

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Graphic cards for game hounds
continued from page 38

it's a pretty basic unit, with the standard VGA and TV-out connectors. Where this package really shines is in the bundled software: Three full games that are fairly recent, in addition to a collection of slightly older games, as well as the MSI pack of utilities and DVD.

Even though opting for the MX version means you won't be getting the 3-D performance of the Titanium GF4, this extensive bundle at this excellent price certainly takes away any sting you might feel about opting for the more modest performance.

NVidia GeForce4 Ti

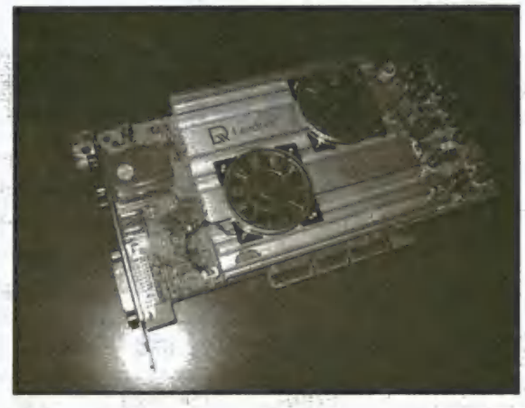
Sitting at the top of the GeForce4 line, the two GPUs in the Ti (Titanium) series have impressive specs: Up to 1.23 trillion operations per second, up to 136 million vertices per second processing power and a 10.4 GB/second memory bandwidth. The cards sport Accuview anti-aliasing (allowing AA to be turned on while still maintaining frame-rates better than the GeForce3 with AA off) and nView multi-display technology.

We've talked about the theoreticals of the GeForce4, but how is it in actual practice? We have to say that the rendering abilities of this chip are nothing short of stunning: One of the tests on our benchmarking software features a fully-rendered nature scene with leaves, grass, butterflies and running water, with virtually every element in the picture moving at the same time in different directions. The rendering was exceptionally smooth and the water was rendered far more effectively than we've ever seen.

The Ti 4400 is the slightly less powerful of the two processors, while the Ti 4600 is the full-out solution.

During our benchmarking we saw the differences, though compared to the other technologies, it was simply matters of degree: Both cards eclipsed the performance of the GeForce4 MX and earlier cards in the GeForce line. With GeForce4 Ti, you're simply getting the most powerful gaming card currently available.

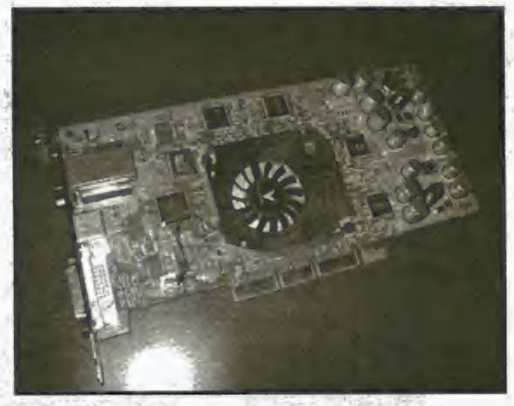
Leadtek WinFast A250TD
From: Leadtek Research Inc.
www.leadtek.com
Estimated price: $480 (converted from US$299)
- GeForce4 Ti 4400 GPU.
- 128 MB DDR.
- AGA 4x/2x.
- 350 MHz RAMDAC.
- VGA, DVI, S-Video/composite out (comes with cable/adapters).
- Cooling system features large heatsink, dual fans and dust filters.
- 2,048x1,536 maximum resolution.
- Comes with *WinFast DVD*, *Cycore Cult3D* and two full games (ours came with *Gunlok* and *Dronez*).
- Compatible with Win98/ME/NT/200/XP.
- One-year warranty.



Okay, there's no point beating about the bush: This card has the most enormous and impressive heatsink we've ever seen on a graphics card, wrapping all the way around both sides, with two high-tech cooling fans incorporating dust filters to prevent jamming or damage. The end result is that this is one of the largest cards we've ever seen, and that includes the early, early graphics cards that seemed to span the width of the PC case. That may seem like overkill, but it certainly does have its advantages: The card provides very fast performance, with the 4400 GPU providing performance that was pretty close to the 4600 GPU through all the tests. It also means that your card overheating is probably not one of the things you're going to have to worry about when you're in the heat of a *Quake* deathmatch ... worry about your fingers instead.

True, the 4400 doesn't provide the same level of performance that the 4600 cards would, but it's close enough that the dollars you save are pretty substantial.

Visiontek Xtasy GeForce4 Ti 4600
From: Visiontek Inc.
www.visiontek.com
Estimated price: $640 (converted from US$399)
- GeForce4 Ti 4600 GPU.
- 128 MB DDR.
- AGP 4x/2x.
- 300 MHz core, 650 MHz memory clock, 350 MHz RAMDAC.
- VGA, DVI, S-Video in/out (comes with dongle).
- 2,048x1,536 maximum resolution.
- Comes with *CyberLink PowerDVD XP* and *PowerDirector* (video editing).
- Compatible with Win95/98/ME/NT/2000/XP.
- Lifetime warranty.



Something's got to be at the top of the heap, and with this batch it's this card from Visiontek, using the GeForce4 Ti 4600 GPU. Like the WinFast card, this one is also fairly long, but it has a much more compact cooling solution (with a funky nVidia graphic on it which is nonetheless more restrained than many of the other GeForce4 cooling solutions).

Looking at the benchmarking numbers, it certainly sprints ahead in every single category we tested: If you're looking for raw performance, insane frame rates and high-quality output, go with the Ti 4600. The Visiontek bundle doesn't include as much bonus software as we'd like, but it's got some good multimedia items. As far as the hardware goes, it out-kicks all this month's cards, and with the general level of performance we've seen cross-manufacturer, you can bet that its numbers are almost identical to any of the other Ti 4600 cards out there. ◆

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Setting up a virtual cockpit

By NESTOR GULA

Real flight simulators cost about $15 million. Private citizens cannot buy them. In fact, they cost so much it would be cheaper to learn to fly and buy a plane. Unfortunately, even this is out of reach for most people.

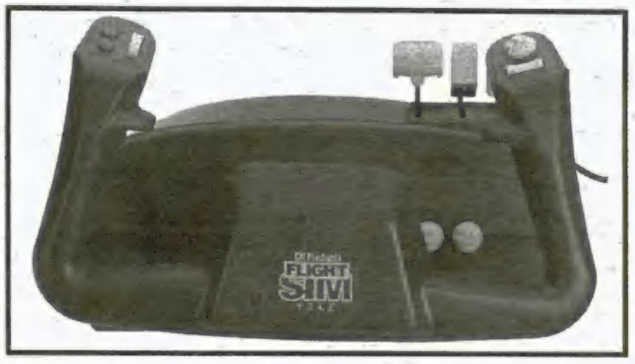
For those intent on maximizing their flight simulator experience or those who have some rather substantial bucks to burn and need all the gadgets, you can get a flight yoke, rudder pedals and throttle control to supplement and enhance your simulation experience. Made by CH Products and available at Radio Shack, the Flight Sim Yoke, Prop Throttle and Pro Pedals are sold separately.

The Flight Yoke is perhaps the most interesting. The steering wheel setup is akin to most commercial aircraft – turning moves the ailerons, pushing it lowers the nose and pulling it raises the nose of the plane. The USB version comes with six buttons, two rocker switches, three levers and one eight position POV switch. While the buttons are all programmable, two of the large buttons operate the flaps and landing gear right out of the box. The rocker switches can be programmed to operate the rudder if one does not get the Pro Pedals. Of the three levers, the best is the first – it is preprogrammed to control the throttle. The other two are preprogrammed to work with the propeller and mixture control.

The Pro Pedals are also quite interesting. Mounted on a solid base, they are an attempt to mimic real rudder pedals. They operate easily and if you press down on them they also work as brakes for the aircraft. The Pro Throttle comes with a plethora of buttons, making it a game controller all its own. It has three four-way hat switches, one eight-way hat switch, three buttons and a three-way mode switch that lets you program 69 different functions. It also has a mini joystick that will let you fly the plane or have movement in other games.

I found the Pro Throttle a bit over the top. I never got around to programming the thing and only used it as a throttle – something that the Flight Sim Yoke could do very well. As well, all these devices are USB so I had to get a powered USB hub to plug the three game controllers into the computer. The Pro Pedals were solid and did not slide. It was actually very interesting steering the plane with your feet while taxiing – definitely a new experience. The Flight Sim Yoke was excellent in functionality except the materials and construction seemed a little bit too flimsy for my liking. The unit is attached to the desktop with two short and small claws. The unit therefore rocks when any large force is applied to it. This is not an issue when you are serenely flying a plane in *Flight Simulator 2002* but if you are going to be playing a combat flight sim game, like the demos included with the unit, then this does get in the way. I also tested it with several car racing simulations and it is a truly bizarre experience to drive – you accelerate by pushing in on the yoke and brake by pulling back. Not all racing games recognized the wheel and the pedals.

I liked the Flight Sim Yoke and the Pro Pedals but would pass on the Pro Throttle unless you really don't want to use the keyboard and need 69 buttons programmed on the throttle. The cost of these items will be a barrier for most but the true flight simulator aficionado will undoubtedly see through this. I tested this with various products and it really worked best with the *Flight Simulator 2002* package or the older variants. ◆



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www.chproducts.com

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Ctrl-Alt-Belkin

By SEAN CARRUTHERS

With the proliferation of gaming controllers on the market, it's pretty plain that the majority of game fans want more than just the keyboard and the mouse when playing games on a PC.

Belkin Components (www.belkin.com) has a few new controllers to help you with your games. The Nostromo series includes a few gamepad-style handheld controllers, but also contains a pair of interesting alternatives – the Nostromo n30 Game Mouse and the Nostromo n50 SpeedPad.

Nostromo n30 Game Mouse

Estimated price: US$46

The n30 Game Mouse, at first glance, looks like a fairly standard mouse with fins just like on an old car, except there's one on the left and one along the back. The rear one is for design/balance only, but the one along the left hand (known as the Battle Wing) provides a thumb rest at the bottom, and a third mouse button above which is fairly difficult to hit by accident. Like many modern mice, this one features a scroll wheel between the left and right standard mouse buttons. It connects via USB, and is compatible with Windows 98, 2000 and Millenium (one would assume compatibility with WinXP too).

The mouse comes bundled with a program called *Immersion Desktop*, which triggers the Touch Sense technology built into the mouse – when the mouse receives the proper data from the PC, it will give tactile feedback, much like force feedback joysticks. We had it set up so that when moving the mouse around on the Windows desktop, it would give a little kick every time the cursor rolled across an item on the desktop. This feature can be used in gaming to provide extra realism or can even be used just to make everyday navigation a bit easier.

One problem: Because of the design of the Battle Wing on the left side of the mouse, it will only be a right-hand device ... lefties be forewarned!

Nostromo n50 SpeedPad

Estimated price: US$35

If the n30 is designed for use with your right hand, meet the Nostromo companion for your left hand, the n50 SpeedPad. You only need one look at it to realize it's a more involved device than the n30: There's a palm rest at the centre, with 10 keyboard-style buttons within easy reach of the fingers, as well as a scroll wheel and an eight-direction tilt pad on the right-hand side within easy reach of the thumb.

Apart from the scroll wheel, all of the other buttons and controls can be user-programmed as single-touch triggers, either for a single key or a macro (series of commands). Any of the keys can be programmed as one of three available "shift" keys, which give you additional spots for user-defined macros/triggers. With a careful bit of programming, all of the keyboard-based commands could be condensed down to the SpeedPad, allowing you to forget about the keyboard altogether while gaming.

The software that comes with the n50 allows you to program all of the different triggers and allows you to profile by game; simply change profiles and all of your triggers will be reset for the appropriate game or application.

The SpeedPad connects to your PC via USB and is compatible with Windows 98, ME, 2000 and XP.

Both products come with a lifetime warranty. ◆

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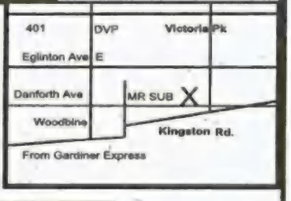

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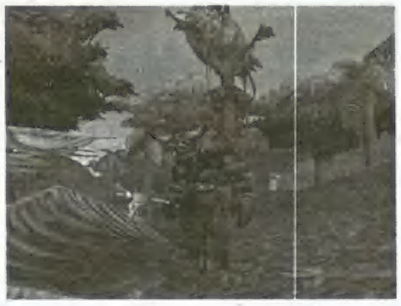
E3 preview 2002



By MARC SALTZMAN

What do you get when you combine 65,000 people, 3,000 products and over a half-million square feet?

The answer, of course, is the annual Electronic Entertainment Expo (E3).

This glitzy week-long convention each May is where members of the multi-billion dollar video game industry cram into the Los Angeles Convention Centre to peek into the future of interactive entertainment.

Granted, much of the focus on this year's E3 will be on the race between the three big consoles – the PlayStation 2, Xbox and GameCube – but there's quite a buzz about the PC gaming products, as well. The following is a brief look at what to expect.

Unlike last year, when the game was shown to a very select few behind closed doors, *Star Wars: Galaxies* from LucasArts and Sony Online Entertainment will certainly cause considerable hoopla.

The game is a jaw-dropping massively-multiplayer role-playing game (similar in scope to *Everquest*, also created by Sony Online Entertainment) but of course, it is set in the coveted *Star Wars* universe. And with *Episode II: Attack of the Clones* debuting in theatres a week before E3, you can bet the Force will be on many o' minds that week.

Galaxies will be played from a first-person perspective, where thousands of players can simultaneously roam recognizable locations such as the planets Tatooine, Dagobah and Hoth, or even on the deck of the famed Millennium Falcon spaceship. The game should combine combat, puzzle-solving, space travel and good ol' fashioned interaction with other characters (some familiar, some not) in order to accomplish a number of main missions and side-quests.

There should also be other stellar massively-multiplayer titles to test-drive at E3, including Electronic Arts' ambitious *The Sims Online* and Blizzard Entertainment's *World of Warcraft*.

Strategy fans are looking to Microsoft to whet their appetite, and that's just what it will do.

In *Impossible Creatures*, an innovative war game from Canadian developer Relic Entertainment, gamers must play a "mad scientist" and create a variety of creatures by combining traits of more than 50 different animals. For example, fusing together a chameleon with an electric eel will yield a stealthy ranged unit. Or how about a creature with a nasty melée attack that can also burrow underground? Simply combine a rhino with a lemming.

This *Island of Dr. Moreau* style of gameplay is referred to as "bubblegum biology" by its creators and can produce thousands of custom combinations to keep the action fresh every time.

In total, there are 15 distinct missions spread across 14 islands, plus there are a handful of unique multiplayer options whereby up to six *Impossible Creatures* players can wage war online.

Microsoft will also show off *Age of Mythology*, created by Ensemble Studios, the designers responsible for the coveted *Age of Empires* strategy series.

As with its predecessors, players must choose a civilization and help it grow into a military, economic or technological force to contend with. But this time around, mythology is mixed into real history as mortal men must do battle with gods and monsters.

In total, there are 20 different mythological creatures based on the ancient myths of the Norse, Greek and Egyptian cultures. Perhaps you'd like to create a few Cyclops or Medusas to terrorize opponents? Or maybe a prayer to Ra or Zeus to cause a meteor shower on an unsuspecting village?

The game is also the first in the series to feature a true 3D universe, so players can rotate the screen for a better view or zoom in and out of the action. And special effects such as tornadoes, lightning, rain and earthquakes are as attractive as they are fun to induce.

Lastly, action fans – don't forget about titles such as *Doom 3* and *Tomb Raider: The Angel of Darkness* – but don't hold your breath for *Duke Nukem Forever* ... ◆

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Gaming with balls

By SEAN CARRUTHERS

Elsewhere in this issue we blab about gaming controllers – those special devices with lots of special buttons, maybe force feedback and sometimes special mounting clips to make sure they don't fall off the desk. One of the best gaming devices for me, though, is the trackball, especially for those first-person 3-D games.

When trackballs first hit the market, they were monolithic things, taking up half the desktop and requiring your whole palm just to move the ball. Newer generations shrunk that down considerably and the newest batch of trackballs are ergonomic wonders.

My favourite of the new batch is Microsoft's Trackball Optical. It's a well-designed device for those who are right-handed, putting a compact ball on the left-hand right at the point your thumb will naturally fall. Resting beneath the fingers are the two standard mouse buttons, a scroll wheel in-between, with two smaller buttons bracketing the whole shebang.

You may have seen optical mice – they're the ones with the red light on the bottom. The Trackball Optical uses the same technology inside, except instead of your desktop, the optical sensors track the movement of the ball as it spins in the socket. The technology has a few advantages, including speed, precision and the ability to track properly despite dust or skin oil.

For gaming, the trackball has advantages over the traditional mouse. First up is incredible precision, especially when you're trying to look semi-randomly through 360 degrees in a first-person game. Secondly, because the base of the trackball stays put, you don't have to worry about falling off the mousepad or bashing it into your keyboard in the heat of the moment, like you might with a mouse. ◆

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CyberPlay

The Sims emerge from the Myst

By GEOFF MARTIN

After spending both 2000 and 2001 as the top-selling video game, and continuing its domination of video game sales charts well into 2002, *The Sims* has now eclipsed the *Myst* franchise to become the best-selling video game of all time.

The Sims is Electronic Arts' modern-day answer to what was always promised to hopeful children in the Sea Monkeys comic book ads of yesteryear: A miniature family that will do your bidding and whose exploits you can watch from afar for hours on end. While Sea Monkeys spilled out of the package resembling tiny, lifeless, freeze-dried shrimp for those naive enough to order them, *The Sims* has actually delivered on its packaging claims, and continues to inspire add-ons and legions of fans more than two years after its release.

The original *The Sims* game has now sold an impressive 6.4 million units and counting and boasts four add-on titles that have more than doubled the franchise's total sales, which at last count stood at a whopping 13 million.

Perhaps the most important key to the success of *The Sims* is that it is enormously popular among women, who comprise more than half of its audience. Women have rarely been targeted as the key audience for a video game in the past, but it's a safe bet that many game developers will be looking to create the next "kinder, gentler video game" in the near future. Now that game publishers are seeing irrefutable proof that a female-friendly video game can translate into big dollars, can it really be long before we see a virtual version of *Sex and the City?*

Get ready to play some data

It was well over a year ago that DataPlay won Best of Show honours at the 2001 Consumer Electronics Show in Las Vegas, but what looks to be the next wave in portable media is finally hitting store shelves this month.

DataPlay (www.dataplay.com) is the proprietary name of a new form of digital media that will hold 500 MB of data on a tiny device about the size of a postage stamp, which will considerably improve the storage capacity of portable devices such as MP3 players and digital cameras, most of which currently use flash memory that maxes out at 128 MB.

The discs are starting out in audio players only, though eventually they're slated to appear in digital cameras, video cameras and handheld video games. The discs also enjoy good support out of the gate, as Samsung, Matsushita and Toshiba are all major investors, and DataPlay already has deals in place with music industry behemoths EMI, BMG Entertainment and Universal Music Group. Samsung, Matsushita and Toshiba will be releasing DataPlay audio players this month starting at about $450, which will connect to PCs through a USB port in order to write data to the discs. There will also be about 50 full albums released in the format from its music partners and DataPlay hopes to have 300 such titles available by the end of the year.

Plans are also afoot for record labels to sell full albums that will also include one or more additional albums of a similar style; users will be able to preview the extra songs for about 30 seconds apiece, and if they want to purchase that music, all they'll have to do is connect the player to their PC, pay for it by credit card and the additional tunes will be unlocked for good.

Finally, evidence that people with demonstrable brain activity are getting creative about online music distribution.

Open your wallets, pardners

YAHOO!

Yahoo! likely has more important things on its mind (profitability, anyone?), but nevertheless, it now has one angry cowboy to add to its list of headaches.

Wylie Gustafson is the yodeling voice that wraps up just about every commercial the Web giant has ever produced, but he's not warbling such a happy tune these days, and he has the lawsuit to prove it.

Gustafson claims he was duped into accepting US$590 to record his yodel in 1996, after being assured that his voice would be used for a one-time-only commercial.

But now that his distinctive yodel has been heard in countless TV and radio ads in the years that have followed, Gustafson is demanding an ever-so-slight pay raise totalling US$5 million.

What Gustafson apparently doesn't realize is that there is a long tradition of paying voice actors a pittance, while the catch phrases they give life to are repeated for years to come.

James Earl Jones is perhaps best-known for two things: As the voice that says "This ... is CNN" countless times each day on the Cable News Network and as the booming voice of evil in the role of Darth Vader. It's never been disclosed how much he was paid for the CNN gig, but Jones has pointed out on more than one occasion that it was a one-shot deal that barely covered his pre-recording breakfast. Previously, for the role of Darth Vader in *Star Wars*, which eventually made its creator George Lucas a billionaire, he was paid US$7,000. (That amount was eventually doubled when Star Wars became a runaway hit, and Lucas sent him a "generous" Christmas bonus.)

But the King of under-appreciated vocal chords has to be Elwood Edwards. Those not immediately familiar with Edwards' name are almost surely familiar with his voice – he owns the golden pipes that chime "You've Got Mail!" to millions of AOL users each day. Despite such widespread usage of his voice, Edwards was paid a paltry $100 for his work in 1989 and has no hard feelings about it, choosing instead to enjoy the recognition it brings him. ◆

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Intel Pentium 4-1.6GHz	$1489.99	or $55/mth
Intel Pentium 4-1.7GHz	$1529.99	or $51/mth
Intel Pentium 4-1.8GHz	$1579.99	or $53/mth
Intel Pentium 4-1.9GHz	$1639.99	or $55/mth
Intel Pentium 4-2.0GHz 512k	$1729.99	or $58/mth
Intel Pentium 4-2.2GHz 512k	$1939.99	or $65/mth
Intel Pentium 4-2.4GHz 512k	$2199.99	or $73/mth

PREMIER CHOICE GOLD

- ☑ Asus P4S333 Motherboard for Intel Pentium 4 CPUs or Asus A7V333 Motherboard for AMD CPUs
- ☑ Thermaltake Volcano 7 Heat Sink /Fan for AMD CPUs
- ☑ Panasonic 3.5" - 1.44MB HD Floppy Disk Drive
- ☑ 60Gb Fast Ultra-100 Hard Disk Drive @ 7200RPM
- ☑ 256Mb DDR RAM, PC2700, 184 Pin RAM Memory
- ☑ Enlight Mid-Tower AT Case w/ 7 Bays & 300W P.S.
- ☑ On-Board EIDE Controller & Ultra/100 Support
- ☑ 4- USB Ports, 2- 16550 Serial Ports, 1 PS/2 Mouse Port & 1- Bi-Directional Parallel Port
- ☑ Asus v8170/DDR GeForce4 M -440 w/ 64Mb & TV-Out
- ☑ Panasonic 24x10x40 CD-RW w/ Burn Software
- ☑ SoundBlaster Live 5.1 PCI Stereo Soundcard
- ☑ Altec Lansing AVS500 w/ 4 Speakers & Subwoofer
- ☑ US Robotics 56K Internal Fax/Modem v.90 (PCI)
- ☑ D-Link 10/100Mbit Full-Duplex Network Adapter (PCI)
- ☑ KDS 19" Monitor .25dp 1600x1280 NI, treame Flat
- ☑ Keytronic 104 Enhanced Soft-Touch Win 95 Keyboard
- ☑ Microsoft Wheel Mouse Optical Mouse w/ Mouse Pad
- ☑ MS Windows P Home OEM w/ CD and Manual
- ☑ **5 Years Labour & 1 Year Parts Warranty**

AMD Duron 950MHz	$1764.99	or $59/mth
AMD Duron 1.0-GHz	$1774.99	or $59/mth
AMD Duron 1.1-GHz	$1789.99	or $60/mth
AMD Duron 1.2-GHz	$1799.99	or $60/mth
AMD Duron 1.3-GHz	$1829.99	or $61/mth
AMD Athlon P-1700+	$1864.99	or $62/mth
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AMD Athlon P-1900+	$1934.99	or $65/mth
AMD Athlon P-2000+	$2024.99	or $68/mth
AMD Athlon P-2100+	$2104.99	or $70/mth
Intel Pentium 4-1.6GHz	$1834.99	or $61/mth
Intel Pentium 4-1.7GHz	$1874.99	or $63/mth
Intel Pentium 4-1.8GHz	$1924.99	or $64/mth
Intel Pentium 4-1.9GHz	$1984.99	or $66/mth
Intel Pentium 4-2.0GHz 512k	$2074.99	or $69/mth
Intel Pentium 4-2.2GHz 512k	$2284.99	or $76/mth
Intel Pentium 4-2.4GHz 512k	$2544.99	or $85/mth

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- ☑ Abit TH7II-RAID Motherboard w/ i850 Chipset for P4 or Abit AT7 Motherboard for AMD CPUs
- ☑ Thermaltake Volcano 7+ Heat Sink /Fan
- ☑ Panasonic 3.5" - 1.44MB HD Floppy Disk Drive
- ☑ 120Gb Ultra/100 Hard Disk Drive @ 7200RPM w/ 8Mb
- ☑ 512Mb Rambus, PC800, Non-ECC Memory for P4 or 512Mb DDR SDRAM PC2700 Memory for AMD
- ☑ Enlight Mid-Tower AT Case w/ 7 Bays
- ☑ Pentium 4 - 300W AT Power Supply w/ 2 Fans
- ☑ On-Board EIDE Controller & Ultra/100 Support
- ☑ 4- USB Ports, 2- 16550 Serial Ports, 1 PS/2 Mouse Port & 1- Bi-Directional Parallel Port
- ☑ ATI All-In-Wonder Radeon 8500 DV w/ 64Mb DDR
- ☑ Plextor 40x / 12x / 40x CR-RW Drive w/ Software
- ☑ SoundBlaster Audigy Value PCI Stereo Soundcard
- ☑ Creative Inspire 5.1 5300 w/ 5 Speakers & Subwoofer
- ☑ US Robotics 56K Internal Fax/Modem v.90 (Hardware)
- ☑ 3COM 10/100Mbit Full-Duplex Network Adapter (PCI)
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- ☑ Microsoft Natural Keyboard w/ Ergonomic Design
- ☑ Logitech I-Feel Mouse w/ Mouse Pad
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- ☑ Arctic Silver III Thermal Heat Compound
- ☑ MS Windows P Professional OEM w/ CD and Manual
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Premier CPUs & Memory

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AMD Duron 1-Ghz @ 100/200Mhz (Socket A)	see web
AMD Duron 1.2-Ghz @ 100/200Mhz (Socket A)	see web
AMD Duron 1.3-Ghz @ 100/200Mhz (Socket A) S	see web
AMD Athlon 1.3-Ghz @ 133/266Mhz (Socket A)	see web
AMD Athlon 1.4-Ghz @ 133/266Mhz (Socket A)	see web
AMD Athlon P 1700+ @ 1.47Ghz (Socket A)	see web
AMD Athlon P 1800+ @ 1.53Ghz (Socket A)	see web
AMD Athlon P 1900+ @ 1.60Ghz (Socket A)	see web
AMD Athlon P 2000+ @ 1.67Ghz (Socket A)	see web
AMD Athlon P 2100+ @ 1.73Ghz (Socket A) S	see web
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Intel Celeron 1.1-GHz (FC-PGA2) @ 100Mhz S	see web
Intel Celeron 1.2-GHz (FC-PGA2) @ 100Mhz	see web
Intel Celeron 1.3-GHz (FC-PGA2) @ 100Mhz S	see web
Intel Pentium III 1-GHz (FC-PGA2) @ 133Mhz	see web
Intel Pentium 4-1.6-GHz (Socket 478)	see web
Intel Pentium 4-1.7-GHz (Socket 478)	see web
Intel Pentium 4-1.8-GHz (Socket 478)	see web
Intel Pentium 4-1.9-GHz (Socket 478) S	see web
Intel Pentium 4-2.0-GHz (Socket 478) 512k	see web
Intel Pentium 4-2.2-GHz (Socket 478) 512k S	see web
Intel Pentium 4-2.4-GHz (Socket 478) 512k N S	see web

Full List of CPUs Available Online

128 MB, SDRAM PC/133Mhz	see web
256 MB, SDRAM PC/133Mhz	see web
512 MB, SDRAM PC/133Mhz	see web
256 MB, DDRAM SDRAM PC2100 (266Mhz)	see web
512 MB, DDRAM SDRAM PC2100 (266Mhz)	see web
256 MB, DDRAM SDRAM PC2100 Registered S	see web
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256 MB, DDRAM SDRAM PC2700 (333Mhz)	see web
512 MB, DDRAM SDRAM PC2700 (333Mhz)	see web
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256MB 168Pin SDRAM @ PC/133Mhz

ASUS ATHLON UPGRADE BUNDLE — 1800+

Original AMD Athlon P CPU — 1900+
Thermaltake Volcano 7 Heat Sink & Fan — 2000+
Asus A7V333 Motherboard w/ Via Chipset — 2100+
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ABIT P4 UPGRADE BUNDLE — 1.6Ghz

Original Intel Pentium 4 CPU (Socket 478) — 1.8Ghz
Abit BD7-RAID Motherboard w/ Intel 845D Chipset — 2.0Ghz
Enlight Mid-Tower Case w/ 7 Drive Bays — 2.2Ghz
Pentium 4 - 300W Power Supply w/ 2 Fans
256MB DDR SDRAM @ PC2100

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Heroic action for would-be heroes

By WILLIAM A. WOOD

Wham! Zap! Kapow! *Freedom Force* is a stupendous squad-based simulation of colossal comic-book capers!

This "pause-able real-time" superhero game is a rock-solid effort that's got almost everything a gamer could want – a spellbinding story, gripping gameplay and tremendous heart – and, best of all, no bugs (which is definitely a super-heroic feat these days)!

The game takes place in 1962. An alien plot of perilous proportions has caused the random release of a strange substance, Energy X, among the peaceful citizens of Patriot City, U.S.A. The result? Various individuals now possess super powers! Needless to say, heroes emerge to use their new abilities for good, while villains quickly exploit them for evil.

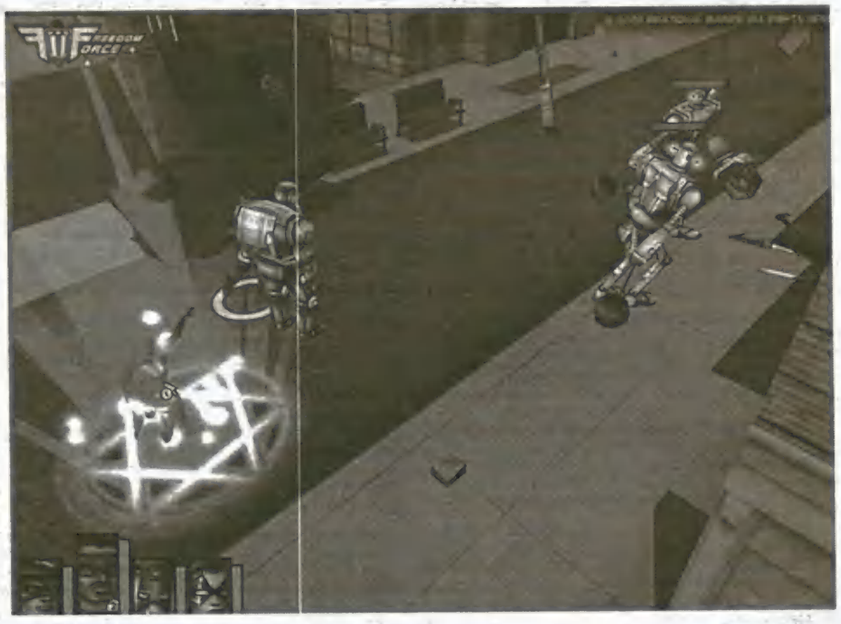
The game is a gorgeous recreation of classic 1960s-style comic books (think Jack Kirby) with a dash of the Adam West *Batman* television show thrown in. The dialogue is vintage, complete with tirades against the dastardly "commies" and "gee willikers" interjections.

"For freedom!"

Starting with Minuteman, a Captain America-esque good guy with a ready fist and a fine collection of patriotic catch-phrases ("Right makes might!"), you slowly assemble a group of heroes to form Freedom Force. The fiery El Diablo, the lovely Alche-miss, the tortured Man-Bot, the mysterious Mentor and many more will join your crusade. And as the game progresses, they will gather experience to unlock additional powers.

The bad guys range from aliens and giant robots to dinosaurs and gangsters – not to mention the supervillains, such as Pinstripe, the Shadow and Nuclear Winter. And behind it all, a sinister force that controls time itself is hatching a deadly scheme.

Controlling your heroes couldn't be easier. Using a mouse and hotkeys, you



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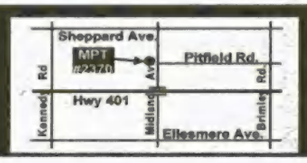

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21" SVGA REFURB MONITOR, EXCELLENT CONDITION, $269
10/100 USB EXTERNAL ETHERNET NETWORK CARD, $22
WIRELESS DESKTOP INTERNET KEYBOARD & MOUSE, $59

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can unleash all your powers to clobber the bad guys and save the day. Much like with *Baldur's Gate*, you can pause the action at any time to issue orders. Each mission will allow you to choose up to four heroes from your roster (which can reach a dozen or more). There are over 20 missions.

Successfully thwarting the evildoers will gain your team prestige. This prestige can be used to hire freelance heroes, including custom heroes you can build from scratch. The character creation system is a lot of fun and easy to use with a large assortment of ready-to-use powers and a fabulous "create your own" system. You have to be careful not to make your caped crusaders too powerful, though, or it may take Freedom Force a long time to earn enough prestige to afford them.

Smash it up

The game environment is "fully destructible." That means heroes can toss cars, smash trees and bring down buildings – even rip out lampposts and batter the bad guys into submission. On the other hand, this also means that wanton use of energy beams or other dangerous powers can damage private property, which can cost you prestige.

The squeamish will be happy to know that the violence is pure comic book; everyone is "KO'd," never killed (even if they get knocked off a tall building or stomped by a dinosaur). And there's no blood.

The objectives aren't entirely clear in a few of the earlier missions, and the game lacks a "free-for-all" skirmish mode (which has apparently been promised in a future patch).

But those are trivial complaints. The variety of heroes (pre-built and custom) allows the game to be replayed many times with entirely different tactics. And up to four players can duke it out in multiplayer.

For anyone with a heroic urge, this game is the best sidekick you could hope for. Highly recommended. ◆

more INFO

Freedom Force
$59.99
Irrational Games, Crave Entertainment, and Electronic Arts
www.myfreedomforce.com

Minimum requirements:
Windows 98/2000/ME/XP
300 MHz Pentium II (600 MHz PIII recommended)
96 MB RAM (128 MB rec.)
DirectX 8.1 or higher
16 MB Direct 3D capable video card (32 MB recommended)
DirectX 8.1 compliant sound card
4X CD-ROM drive
570 MB free hard-drive space

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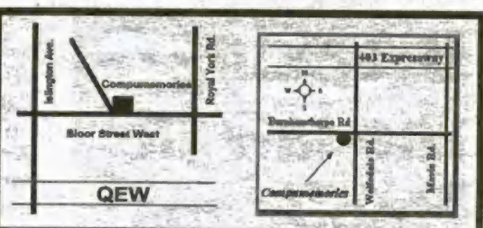

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Breaking the law in *Hooligans: Storm Over Europe*

By CHRIS TALBOT

Drink beer. Do drugs. Steal. Get laid. Fight. Break things. Who could ask for anything more? In *Hooligans: Storm Over Europe*, you take on the role of a group of sports fans that are travelling around Europe and going to football (read: soccer) games. However, these aren't ordinary fans – these guys are drunken thugs on a rampage.

Released by Amsterdam-based DarXabre, *Hooligans* is an isometric perspective-based real-time strategy game in which players smash, loot and vandalize cities all over Europe while trying to get into football stadiums. Easy to install, the game's controls are simple and similar to those found in the *Age of Empires* series (left-click to select units, right-click to issue commands).

A word of warning: *Hooligans* is a politically incorrect game of beer-swilling maniacs. The characters in the game break all kinds of laws, including (but not limited to) robbery, assault, murder and vandalization. Ordinarily, a warning like this wouldn't be necessary in a *Toronto Computes!* review because most computer games these days carry an ESRB rating that will give buyers an idea of the age range appropriate for games. *Hooligans*, however, has not been rated by the Entertainment Software Rating Board. The European 18 rating the game sports is a Mature ESRB rating equivalent.

Hooligan "armies" contain six hard-core units – leader (the heads of the gangs), rat (break and enter specialist), raver (drug-addicted party animal), hooligan (ski mask-wearing demolitions expert), biker (driver) and bulch (tough brawler). During play, your gang will also likely attract supporters – drunks who don't care about anything but getting rowdy (buy them a beer and you have new friends). Suits (that briefcase is more than it appears to be) and chicks (flirt with these escorts in brothels) can also be recruited.

Innocents mind their own business, spend money in shops (that you can later steal) and run like the wind from rioting hooligans. Your enemies are cops, the riot squad and other gangs that will gladly get into a scrap with your hoodlums.

Parents of younger gamers will likely find the content in *Hooligans: Storm Over Europe* to be highly offensive, but older gamers with a warped sense of humour probably won't be able to stop laughing long enough to take this game seriously. The introduction segment alone is hilarious: A TV news show starts and a reporter starts talking about football hooligans. Throughout footage of hooligans drinking beer and looking tough, you learn more about the gang leaders you are about to start controlling.

A game with this many controversial things belongs in gaming collections that sport titles like *Grand Theft Auto III* (PlayStation 2, but soon to be released for the PC) and *State Of Emergency* (also for PS2).

A multiplayer option is available, but there is no central server that allows *Hooligans* players to connect to play. To go head-to-head with other players, you'll have to find other players with the game, set up one game as a server, figure out everybody's IP address and then instruct the game to connect everybody. This is the game's biggest flaw – a flaw that kept us from testing the multiplayer option. ◆

more INFO

Hooligans: Storm Over Europe
$48.72 (converted from EURO 34.99)
DarXabre
www.hooligans-thegame.com
Not rated by the ESRB, but Mature equivalent

Requirements:
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Gothic introduces a strange, new world

By CHRIS TALBOT

Not exactly a role-playing game (RPG) and not quite an action-adventure, Xicat Interactive's *Gothic* takes elements from the *Tomb Raider*-esque third-person adventure games and traditional RPGs. In the end, what has been created is a technically flawed game with an interesting and dynamic story.

In *Gothic*, players take the role of an unnamed prisoner in a dark fantasy world where a king has imprisoned all men guilty of crimes in a mine surrounded by a magical barrier (you can go in but can't get out). Unfortunately, the wizards creating the barrier were trapped inside and, shortly after the barrier went up, the prisoners took control of the camp.

On the outside, the kingdom is warring with an army of orcs and the king's army is in need of iron ore. The prisoners were originally to be locked up to mine the ore as punishment, but now that they control the mine, they are bartering supplies and necessities for ore.

The main character's crimes are not detailed. When the game begins, you just know you're a convict about to be sent into the mines. Just before they thrust the hero in, an emissary (supposedly from the king) hands him a letter and asks him to take it to the Wizards of Fire. In return, he can demand anything as his reward. The game begins with the character being thrown into the mines.

The first character the hero meets is a man named Diego, who saves the hero from a beating by a brute squad. Diego also promises to help you get into the Old Camp, one of three political factions this side of the barrier (the other two being the New Camp and the Brotherhood of the Sleeper).

As in many RPGs, the dialogue is bad. Almost everybody the hero meets refers to him as "Hey, you!" The graphics in the game are decent. There was obviously an attempt to create a visually-interesting world, but the backgrounds seem to fade in and out depending on how the hero is standing. The coolest thing about the graphics is the ominous magical barrier that looms overhead throughout the game. It crackles with a blue energy reminiscent of lightning.

From a technical aspect, the gameplay is flawed. Equipping weapons took some effort at first. The manual is so slim and poorly written that it is only of little help. There are not a lot of commands to memorize, and once you've got them down pat, the manual becomes useless, anyway.

Gothic's biggest downfall is in its combat. Commands are keyboard-driven. To move, you use the arrow keys. To attack, you hold down the CTRL button while hitting the arrow keys. This means that you cannot attack and move at the same time. The attack commands are also unresponsive. This is a pity because enemies in the game don't seem to have this problem. And enemies are deadly.

I found some difficulty with the item menus. They were unreadable much of the time I was trying to use them.

Another flaw I found was that when asking questions of other characters, they often start to answer the question before the hero has even finished posing it. This creates a jumble of sounds while two characters talk at once.

If you can tolerate the technical flaws, *Gothic* is worth playing. The story is dynamic. You can choose which political faction you wish to belong to, accept or refuse small quests and explore this strange and interesting world. ◆

more INFO

Gothic
$39.99
Xicat Interactive
www.xicat.com

Requirements:
Windows 98/2000/ME/XP
Pentium II 400 MHz processor
128 MB of RAM
16 MB 3-D video card
4x CD-ROM
700 MB of hard disk space
DirectX-compatible video card
DirectX-compatible soundcard

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A gaming diversion

By CHRIS TALBOT

Known for its line of affordable, but demented, board games like *Kill Doctor Lucky* and *Devil Bunny Needs A Ham* (I swear I'm not making this up), Cheapass Games has delved into the distribution of zany and insane computer games.

Cheapass's first game, *Plasmaworm* was developed by Digital Eel and is available from the Cheapass Web site (www.cheapass.com). If you want to try before you buy, links to demo versions can also be found at the site.

If you remember *Nibbles*, one of the games found in the old Microsoft *QBasic* program that came packaged with Windows 3.1, then you will very quickly recognize *Plasmaworm*. The game's controls and goals are exactly the same – move your ever-growing worm around the screen and collect 10 items to move onto the next level while trying to avoid splattering yourself all over a wall.

Nibbles and its cell phone equivalent *Snake* were based on very simple up/down/left/right controls. *Plasmaworm* gives players greater control over the angle their worms are moving, allowing for diagonal movement.

In the game, players take on the role of a gamma class improbability tank maintenance engineer who is tasked with manipulating a plasmaworm through the otherspatial plasma around the core logic circuits of the improbability tank. Random probabilities are running rampant in the tank and players have to use the plasmaworm to eat 10 probabilities (per level).

A silly idea from a company known for silliness, *Plasmaworm* is a simple game that might turn off serious gamers but will be a nice diversion for others. If you can find this in a Canadian store, great. If you have to buy it off the U.S.-based company's Web site (and pay shipping and handling and cross-border duty charges), the game won't seem like a cheap deal. ◆

more INFO

Plasmaworm
US$10
Cheapass Games/Digital Eel
www.digital-eel.com/plasmaworm
Rated: Not rated

Requirements:
266 MHz processor
16 MB of RAM
5 MB of hard disk space
DirectX 6.0 or better
DirectSound-compatible soundcard

CYBERPLAY

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2107 Yonge Street, Toronto (Between Eglinton and Davisville) 2nd traffic light south of Eglinton. East side on Yonge
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Black Thorn puts a different twist on FPS games

By CHRIS TALBOT

Rogue Spear: Black Thorn is the newest in the *Rainbow Six* series of games. Touted as being from the mind of author Tom Clancy (the Jack Ryan novels), players assume the personae of members of Team Rainbow, a multinational counter-terrorism organization.

Black Thorn takes place after the events in the first games – *Rainbow Six, Rogue Spear, Urban Operations* and *Covert Ops Essentials*. None of the original games are necessary to play the game or enjoy the story of *Black Thorn*. The world's new terror is an enemy that evades Team Rainbow and seems to be able to anticipate how the group's leaders think. An awesome threat indeed.

As a first-person shooter (FPS), *Black Thorn* is of average quality. Charging into an enemy stronghold with a battle cry will only get the operatives killed (and in this game, one bullet can kill). However, the *Rainbow Six* series is obviously not aimed at the traditional FPS crowd. Before heading out on a mission, tactical planning is required. Players get a layout of the hot zone and are required to plot out a plan of attack for their squads (pre-made strategies are available if you're in a hurry to jump into combat).

Even once you're out on the field, the game is lacking in many aspects found in other FPS games. Movement is smooth and doesn't give you the feeling that you're walking or crawling along the ground. It's more like the really old *Wolfenstein* and *Doom* shooters that kicked off the genre, although the graphics are of a much higher quality. In terms of sound, *Black Thorn* is poor, mainly because there is so little of it. Many of the guns are silenced. You can't hear your own footsteps, and often enough, you can't hear the footsteps of the terrorists, either. Not good, as sound plays a big part in stealthy maneuvers.

Black Thorn was easy to install. The commands were quick to learn, although the training missions don't live up to their name. Training implies helping players to learn the game, but the training missions don't give players any hints, tips or instructions. So unfortunately, players will most likely need to at least glance at the manual. Thankfully, the commands are printed in the CD-ROM's slipcase. Too many games don't offer this.

Single and multiplayer games are supported. In the single player campaign, Team Rainbow is sent out on missions to stop the terrorist enemies from killing innocents or taking hostages. In fact, the first mission is a hostage rescue. Kill all the terrorists and you've won. Taking prisoners doesn't seem to be an option. It's too bad because questioning one of them might lead to Team Rainbow tracking down their leaders a lot quicker.

In single player mode, you can also create custom missions. You can choose to run an assault on a terrorist complex with up to 30 terrorists running around, go it alone and try to make it through a terrorist base to get to a rendezvous point (much easier said than done) or set up a hostage rescue in any of the locations available.

Multiplayer lets you go online and team up with your buddies or go head-to-head with them. Multiplayer mode was not tested.

Again, I'll stress this isn't a typical FPS. Tactics and stealth are necessary to win the game, not barbaric rampages. ◆

more INFO

Rogue Spear: Black Thorn
Ubi Soft
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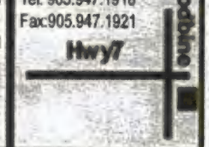

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Glasses pop games into 3-D

By CHRIS TALBOT

It's been a long time since there was an attempt at building 3-D gaming glasses, but Toronto's Teckzone has brought i-O Display Systems' H3D Gaming & Internet Glasses for the PC to Canada.

Designed for the PC gaming environment, the H3D wireless glasses don't have the most user-friendly setup procedure in the world, but in the absence of any competition, beggars can't be choosers (unless you choose not to buy, that is).

With a $149.99 price tag, the glasses will probably fall outside the realm of possibility for most gamers.

However, before shelling out your hard-earned money, you should be aware the algorithm that creates the 3-D effect will work better with some games than others and you might find the results to be less than spectacular in some instances. When you view the custom-made graphics in the H3D test area, it looks like you'll be in for a wild ride, but when you use the glasses in a game like *Aliens vs. Predator 2*, the results aren't quite the same.

A big problem with the glasses themselves is with the "ON" button. It's a little finicky and I found I had to push the button very hard in a certain way or the glasses wouldn't turn on.

While the H3D glasses might not have quite the impact i-O was hoping for, at least they're on the right track. Some tweaking of the technology is in order to make the glasses easier to configure, however. With the support of the major game producers, the effects that could be written into the code could be amazing. ◆

more INFO

H3D Gaming & Internet Glasses
$149.99
i-O Display Systems
www.i-glasses.com

Requirements:
Windows 95/98
CRT monitor
32x CD-ROM drive or 400 MB of free hard disk space
Not compatible with flat LCD monitors

Jedi Outcast continues Star Wars saga

By ERIK SEBELLIN

Third time is the charm, right? Not always. The first game in this series, *Dark Forces*, was a *Doom* clone, but it was

good for its day. Then, we had *Star Wars Jedi Knight: Dark Forces II*. This one was quite good: The gameplay was story-driven, you could select from a number of story options (you could, for example, join the dark side) and your character was very compelling. And now, we have *Star Wars Jedi Knight II: Jedi Outcast*. Technically, it is significantly better than either of the previous releases, especially the excellent artificial intelligence, but you are restricted to a linear storyline.

Set nearly a decade after the events of *Jedi Knight*, *Jedi Outcast* continues with the same characters: Kyle Katarn and his partner Jan Ors. Kyle and Jan are mercenaries who work for the New Republic (what the Rebels called themselves after they beat the Empire). The game starts when the duo are sent to a remote planet to investigate an intercepted transmission that mentions the Valley of the Jedi.

Levels are set up so you can approach problems from a variety of angles. For example, if a heavily shielded guard is protecting a room you need to get into, you may be able to find an alternate entrance that bypasses the guard. Unfortunately, however, the levels also include a tiresome number of jumping puzzles you must master to reach your goal and an inordinate amount of key hunting before you can unlock doors.

Enemies range from simple Storm Troopers up to Dark Jedi, all of which are deviously clever. Despite the large assortment of weapons, the only ones worth mentioning are the lightsaber and the Force. The lightsaber takes a lot of getting used to, but once you get the hang of it, saber dueling is great fun, especially against an intelligent opponent. The Force, which is also great fun, gives you a range of powers such as Force Pull, which pulls enemies and objects toward you, Force Push, which does the opposite, and Force Jump, which lets you jump very high.

The graphics are nice, but not spectacular. On the downside, the environments are boring and even occasionally ugly, but on the upside, the lightsaber is very beautiful and the character models feature a ton of polygons.

Sound is excellent; not only do you get an orchestral score reminiscent of John Williams' work in the *Star Wars* series, but lightsaber and weapon sounds are faithful to the movie. Billy Dee Williams does the voice for his character, Lando, but unfortunately, while Luke Skywalker does makes an appearance, he is not voiced by Mark Hamill.

The game play is available in two modes – single and multiplayer. The better of the two is multiplayer. In this version, you can play offline against computer controlled bots of varying intelligence or you can play online against other players in games such as Capture the Flag.

The biggest problem with *Jedi Outcast* is the CD, in that it does not allow for the installation of the game! The first CD I tried repeatedly froze during installation. A second CD also failed. As did a third. So how did I install the game? I (1) yanked out my CD drive, (2) temporarily

replaced it with a CD drive from another computer, which did not allow me to install the game, but at least let me copy the files to my hard drive, and finally, (3) installed the game from my hard drive.

Now I have to restore the CD drives to their respective computers and clean up my hard drive; a task the Force, unfortunately, is not equipped to help me accomplish. ◆

more INFO

Star Wars Jedi Knight II: Jedi Outcast
$69.99
LucasArts
www.lucasarts.com

ESRB TEEN T

Requirements:
Windows 95 OSR2/98/ME/2000/XP
Pentium II 350MHz
64MB RAM, 128MB for Windows 2000 or XP
16MB graphics card

Starfighter tries to live up to X-Wing Alliance

By CHRIS TALBOT

The many fond memories of playing LucasArts' *X-Wing*, *TIE Fighter* and *X-Wing Alliance* had me waiting on the edge of my seat for *Star Wars: Starfighter*, the new space combat simulation game set during the time of *The Phantom Menace* (with *Attack Of The Clones* mere weeks away, I'm curious why LucasArts waited so long to release a game like this).

What I found didn't live up to my expectations, but *Starfighter* is still a good game in many ways. Players get the chance to fly the yellow Naboo fighter seen in the space battle scenes of *The Phantom Menace*, a hyper-manoeuverable ship with two top-mounted wings and a third ventral wing known as The Guardian Mantis, and an experimental bomber called The Havoc.

The first mission in the game is a training mission for a new Naboo pilot. Unfortunately, the level is a canyon run that seems ripped right out of the old *Rebel Assault* game, the worst of the *Star Wars* piloting games. As Rhys Dallows, you fly through the canyon shooting at target mines and shooting it out with holographic starfighters. Unfortunately, the speed of the starfighter had me bouncing off canyon walls to Rhys's inevitable death. Riding the brake was necessary to get through this.

Jump into space and go head to head with more holographic starfighters in another training mission. Now this is more reminiscent of the *X-Wing* games I fell in love with. There are few ship control panels, however, so the amount of control over weapon, shield and power systems is much lower than in *X-Wing*.

The graphics and sound are awesome. I noticed while flying through the canyon that when you shoot the canyon wall or the ground, the blasts leave holes. Very nice.

Players of *Starfighter* are treated to 14 missions (plus bonus missions) spanning three worlds. You get the chance to play three heroes – Dallows, a Trade Federation pilot named Vana Sage, and a greedy alien pirate known as Nym. Each one has their own reasons for joining the fight against the Trade Federation to rescue Naboo from oppression.

The game can be played with a mouse and keyboard combination or with a joystick/gamepad. The learning curve is very low, especially if you've played any of the *X-Wing* series of games before. Even if you haven't played games like this before, the controls are fairly easy to learn.

Noticeably missing from the game is a multiplayer function. Players are unable to go head to head on the Internet or on an intranet. This is a shame, really. The multiplayer options in *X-Wing Alliance* were a blast. My guess is LucasArts is focusing their multiplayer efforts on the soon-to-be-released *Star Wars Galaxies* online game. Still, a multiplayer option would have given fans extra incentive to buy *Starfighter*.

Even though *Starfighter* has its flaws, it's still a good game. *Star Wars* computer gaming fans will want to add this to their collection. It'll give them something to chew on while they're waiting for the May release of *Attack Of The Clones*. However, it's definitely not worth lining up for four months to play it. ◆

more INFO

Star Wars: Starfighter
$59.99
LucasArts
www.lucasarts.com

ESRB TEEN T

Requirements:
Windows 95/98/ME/2000/XP
Pentium II 350 MHz or equivalent Athlon processor
64 MB of RAM
580 MB of free hard disk space plus 100 MB of free space for saved game files and Windows swap file
DirectX 8-compatible 16 MB video card
16-bit soundcard
4x CD-ROM drive

Get magnifying glass, start sleuthing ...

By MARA GULENS

As I started playing the latest Nancy Drew mystery, *The Final Scene* I realized the experience couldn't be just between me and Her Interactive's most excellent creation. When I got stuck – likely more stuck than the 10-year-olds who play the game, but nonetheless stuck, I sought out help.

Ultimately the Internet became part of the event – as it seems to do nowadays for so much in our lives. I started "googling" and was soon drawn into Nancy's world – and found places where young detectives hang out and discuss the cases they're working on.

The most unique site was the message board at www.her-interactive.com. Brimming with excitement, experience and frustration, it's a place players post questions on the mystery they're currently solving. Girls can also enroll at the "Cyber Nancy Drew Detective School" and study topics like "Spying," "How To Solve a Mystery" or "Science: How to Dissect a Mystery." Anything, for that matter, that "helps our detective skills." That the site is run by the company that creates the game is irrelevant. It's a wonderful place and rises to the Nancy Drew challenge.

Although surfing the Net is like solving a mystery all the time (you're always thinking, pursuing leads and researching extensively) there are many interesting sites aimed at wannabe detectives and agents.

www.fffbi.com

The Fin, Fur and Feather Bureau of Investigation provides a fun, interactive mystery for kids, while at the same time encouraging them to brush up on day-to-day computer skills, such as searching for information on the Internet, printing pages and solving puzzles.

The plot line is goofy – you have to uncover what kind of weird genetic mixing is being planned for chickens – but it has enough interesting twists to keep kids clicking from page to page. The plot line gets presented in a series of memos from various agents and the player has to keep proving him- or herself to keep the job.

kids.MysteryNet.com

Mystery Net for kids has kids read a simple mystery – and then try to solve it. Solutions posted! There are also some mysteries written by kids for kids, as well as magic tricks. No interactivity here, but good for kids who enjoy solving mysteries.

tqjunior.thinkquest.org/5109/index.html

Start out with the basics: What's a mystery, what's a red herring, what's a suspect? Now move on to the two featured mysteries and start sleuthing. The site also offers would-be mystery writers a chance to try out their own hand and to read about the greats that went before them.

www.eyetricks.com/0101.htm

This one's all in the eyes ... but you'll feel like you have to do some hard sleuthing to understand what's what. Have a look at the 12 optical images, rub your eyes, readjust your glasses and keep guessing.

www.thunk.com

Here's a site for kids who want to live like detectives. At Thunk.com they can input text and then scramble it. Copy and paste the message into an e-mail and then let the recipient know where to go in order to retrieve the original. (I'm thinking there's got to be some way to decipher the Thunk code – and I'm sure some child will rise to the challenge.)

www.odci.gov/cia/ciakids

The CIA for kids site sets up even greater code-breaking challenges and gives a little background on the Enigma, an electromechanical machine used by the Germans during World War II, which offered 150,000,000,000,000,000,000 possible solutions. Yes, the code was eventually broken! Also on view – items from the CIA museum, including the matchbox camera and the silver dollar hollow container.

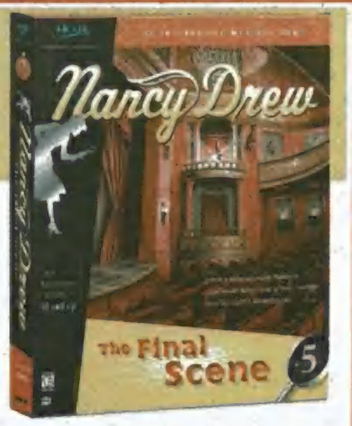
www.fbi.gov/kids/k5th/kidsk5th.htm

This site is for kids in kindergarten to grade five. Learn what the FBI does, learn about general safety and safety on the Internet specifically, get an introduction to various working dogs. Play some games, the best being Special Agent Undercover, where you get to choose Special Agent Bobby Bureau's disguise. ◆

What's a site you'd recommend for kids? Let me know at maragulens@yahoo.com.

Retreating in time with Nancy Drew

By MARA GULENS



It's a strange experience reviewing a modified version of an integral component of your childhood. You forget how old you are. You think about the ways you differ from your successors. And you notice how technology distorts reality and mucks with history and time, and reminds you all over how old you've become.

When I was little, I loved Nancy Drew mysteries. I remember to the detail the events surrounding the purchase of my first book (enroute to the cottage; Peterborough; 1973), the title (*Password to Larkspur Lane*) and the way those hand-drawn images scared the living daylights out of me.

Fast forward 30 years, and almost 70 since the launch of the first title: Girls 10 and up now have access to Nancy Drew computer games. Nancy Drew used to be all about mystery and drama; these games take that suspense to the next level, putting players in Nancy's shoes – and having them crack the case.

In my day, you read about Nancy descending a secret staircase; nowadays you go down yourself. Way back when, it was words on the page that made the reader snap the cover shut and take a deep breath; now it's the click of a mouse and a voice booming from the speakers.

The Final Scene is Her Interactive's fifth foray into the Nancy Drew world, and boy, do they have it down. The plot is terrific, the environment has all the secret passageways, hidden rooms and switches to make it exciting, mysterious and frightening, and the tone is as "Nancy" as I remember it.

This one involves an old high school pal of Nancy's who gets kidnapped while conducting an interview in St. Louis' Old Palladium Theatre. It's a beautiful theatre, complete with velvet curtains, wood and antiques and an attention to detail that really brings the environment to life.

Since the current owners are intent on demolishing the theatre to make way for a new building, Nancy must rescue her friend before the three days are up. The kidnapping makes the front page of the local newspaper and now it really gets interesting. Is Nancy's friend's disappearance related to the impending demolition? And what does the infamous Henry Houdini have to do with the events of today?

The Final Scene is an interactive role-playing game, but unlike games like *Harry Potter and the Sorcerer's Stone*, where you glide through the environment, here it's done with mouse clicks. And unlike Harry, here we never get to ☛

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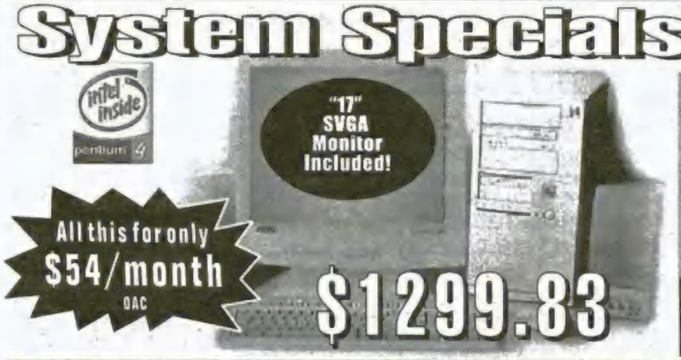

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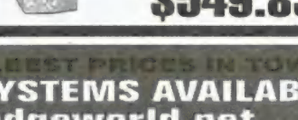

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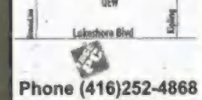

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Retreating in time with Nancy

continued from page 58

see what Nancy looks like.

The cursor becomes a magnifying glass, and as you move it over the screen it becomes red, or "hot," when there's something to investigate. It could also take you to a secret passageway, let you pick up clues or help you quickly hide from the police.

I've played other Nancy Drew games, so starting this one I was wiser. Before I even started sleuthing, I walked around the theatre to get my bearings – and drew a map.

During the investigation, you get to talk to people and listen in on conversations. In a way it seems you can take Nancy out of the book, but you can't take the book out of Nancy. Skip anything and you'll lack the crucial clues necessary to move on.

Hundreds of girls have played this game. Apparently www.herinteractive.com, where girls go for case-cracking tips, has 10,000 registered users. Reading the message boards was where the generational dislocation really kicked in. I loved playing the game – but it was hellishly hard! I did stupid things, like not getting to the closet quickly enough to hide from the police or not leaning far enough over the balcony to retrieve a clue and having to return, oh, 20 times ... just like any other detective.

Nancy Drew fans of all ages will enjoy the game, but young girls will get the biggest kick out of what is intended for them.

At one point I got so stuck I called my editor and said the case was taking longer than expected ... I turned to Her Interactive for help and scoured the Web for detectives who could bail me out. One Nancy Drew angel (sources shall remain unnamed) sent me a saved file with the problem solved and I was back on track.

Her Interactive's motto is "for girls who aren't afraid of a mouse." I'd like to propose another one: For girls who aren't afraid. Period. ◆

more INFO

Nancy Drew: The Final Scene
$29.99
Her Interactive
www.herinteractive.com

EVERYONE E ESRB

Requirements:
Pentium 166 MHz or faster
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Game clones: Classic games reborn on the Palm

I recently bought this neat game for my Palm PDA. In this game, you pilot a helicopter from your base and fly into enemy territory to rescue your men who are held captive in prisons. While in enemy territory, your helicopter faces attacks from missiles, tanks, aircraft and jeeps. No, it's not the classic game *Choplifter*, but a very similar one called *Heli Rescue*. *Choplifter* is owned by Broderbund, and as far as I can tell, this game is not licensed nor was permission obtained to make a very similar game to the one I played back in 1982 on my Commodore 64.

Game clones have been around since computer games began. This clone phenomenon is quite prevalent with Palm games: I don't play *Tetris*; I play *Petra-Luna*. None of these are licensed games, so one could claim that the authors are stealing money from the copyright holder or breaking copyright law.

Legal

Now, I'm not a lawyer (and I don't play one on TV) but when I contacted a couple of game companies, they would not give me permission to quote them or even mention their names for this article. My opinion (based on reading magazines and newspapers), is unless the author has obtained permission from the copyright holder, they are breaking the law. However, in many cases it may be impossible to obtain permission. Many companies who produced software in the '80s and '90s are no longer in business. Classic games that ran on the Atari and Commodore systems are now over 20 years old. Who do I call if I wanted to write a game similar to the one I played on my old computer system? Secondly, how close does a game have to be in order to infringe on copyright? Helicopters have been rescuing people since World War II.

Harmless?

Is cloning games harmless? Broderbund does not make any programs that run on my Palm. In fact, I'd bet that the vast majority of programs for the PalmOS platform come from shareware/freeware authors or small companies selling their wares on the Internet. So unless one of these entities makes a clone of classic games, users like me would not have the opportunity to play them on our PDAs.

No longer in business

What do you do if the company you want to contact is no longer in business? This situation has reared its ugly head with PC emulators. For example, the Atari 2600 was a very popular game machine. Yet Atari is now part of Infogrames and there is no information about older hardware or software on Infogrames's Web site. You can scour the Internet and find copies of the actual cartridge ROMs. Often, it is claimed on these sites that if you own the game cartridge you can legally have a copy of the ROM on your PC. However, I'd bet that the vast majority of people who use these ROM images do not own the game.

The wrath of giants

Although it may not always be practical for a shareware/freeware author to obtain permission to make a clone of an existing game, if you don't you may be subject to the wrath of the copyright holder. Ardiri Software (www.ardiri.com) makes games for the Palm platform. Virtually all of Ardiri's programs are clones of Nintendo or older PC games, and Nintendo for one is not happy. Many of Ardiri's games have been pulled from its Web site at the request of Nintendo. Say goodbye to *Donkie Kung* and *Maryo Bros.* Now, Ardiri has started licensing its games: Visit the site to get a licensed version of *LodeRunner* for the Palm.

Concluding remarks

Imitation is said to be the best form of flattery. If a game company is not going to produce a game for a specific market (say the PDA market) is it worth the bad press and publicity to go after a shareware writer who is asking for $10? We're not talking super intense games like *Quake III* or *EverQuest*. Games like *Choplifter*, *PacMan*, *Galaxian*, *Tetris* and *Frogger* all have a place in my heart. And due to the effort of shareware/freeware authors, they also have a place on my Palm PDA. ◆

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Help wanted: Free gaming tips and tricks

Let's face it – console and computer gaming can be a costly hobby.

Even if you've only purchased a few of the thousands of titles released each year, gamers are then inundated with "must-have" controllers, expansion packs and the inevitable PC upgrade.

And how exactly do you expect to finish the game without purchasing one of those snazzy $20 strategy guides?

Fortunately, the Web provides solace for those looking to get help with finishing their games or unlocking secrets – and for free. If you know where to look, that is.

So, put your checkbook away and take note of these following sites offering thousands of tips, tricks, cheats, strategies and walkthroughs for your favourite console or PC games.

IGN Codes
(codes.ign.com)

Whether you've found a working Atari 2600 at a garage sale or were the first on your block to snag a new Xbox system, IGN Codes contains cheat codes and secrets for over forty gaming platforms.

These codes will unlock secret features in the game, such as invincibility, bonus levels or access to all the weapons, plus there's cunning strategies, full walkthroughs from beginning to end and much more. There are even downloadable saved game files and "GameShark" codes for thousands of popular titles. Definitely worth a bookmark, whether you're a casual or a hardcore gamer.

The Spoiler Center
(www.the-spoiler.com)

Believe it or not, the *Myst* and *Final Fantasy VII* strategy guides sold over a million copies each at retail. It's too bad more gamers weren't aware of this handy and free Web site that houses complete "spoilers" (i.e. solutions) to almost all current (and past) adventure, role-playing, strategy and action games.

So don't pull your hair out if you're stuck in Capcom's *Onimusha: Warlords*, Interplay's *Baldur's Gate II* or Microsoft's *Oddworld: Munch's Oddysee* – simply log on and read what you need to save time ... and sanity.

GameFAQs
(www.gamefaqs.com)

FAQs (a.k.a Frequently Asked Questions) is a broad term used on gaming Web sites that covers general game information, whether it be a strategy guide, lists of some sort (weapons, enemies, items, moves, etc.), an online manual, cheat codes or walkthroughs.

At GameFAQs, visitors can easily peruse these archives by gaming platform (in alphabetical order) or by using the handy search engine. Most guides are in text format; therefore expect a quick page load or an effortless download to read when offline.

GameGuides.com
(www.gameguides.com)

Courtesy of the popular GameSpot e-zine, hundreds of the latest and greatest computer/console titles are featured here, such as Activision's *Return to Castle Wolfenstein*, Rockstar's *Grand Theft Auto III*, Electronic Arts' *Medal of Honour: Allied Assault* and Konami's *Metal Gear Solid 2: Sons of Liberty*.

Simply click on the game of choice to access countless walkthroughs, strategy guides, FAQ files, cheat codes and more.

Easter Egg Archive
(www.eeggs.com)

For the uninitiated, an "Easter Egg" is a hidden feature or novelty that programmers hide in their software, be it a hidden movie, a picture of the development team, a mini-game or game trick. There are likely hundreds of eggs buried in your video game collection, so be sure to drop into the Easter Egg Archive to sift through this vast database.

Betcha didn't know there was a pig in a parachute in Microsoft's *Combat Flight Simulator*?

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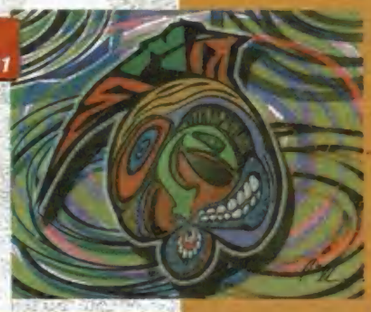

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Sharing more than you bargained for

Napster and its successors created a taste for file sharing among Internet users. That is not new – computer bulletin boards offered downloads of contributed material since they were born in the days of text-only messaging over 20 years ago.

Today, peer-to-peer networks are hot. The notion of sharing files over the Internet from their own computers, and being able to access others' files, has proven appealing. Let's ignore for the moment that part of the reason for this technology's development was to build a way to illegally share copyrighted materials, primarily music, in a way that would be hard to shut down because it existed on thousands, or hundreds of thousands, of small, decentralized "servers." The courts shut Napster down, the technology didn't.

For some time, a number of developers of downloadable free software, have been bundling other programs with their products, programs that may install themselves on the sly, without the user's knowledge or consent. Much of this software is "adware" – programs that retrieve and display advertising as the user surfs. The adware companies pay their host distributors, giving them a revenue stream so they can continue to freely release their products, and the purchasers of the ads pay the adware folks.

If that was all that was going on, it would be easy to accept. In return for a useful free program, you put up with some advertising. Sounds like broadcast TV, doesn't it?

The problem is some of the adware is also spyware. It is recording users' surfing habits and possibly other identifying information, so it can be sold to marketing companies. The result: Users' privacy and security are compromised and the spam count rises.

Recently, however, an even more frightening bit of sneakiness has come to light. Ad technology distributed with the popular *Kazaa* file-sharing software has been discovered to contain additional pieces that allow its authors, Brilliant Digital Entertainment, to build its own peer-to-peer network on *Kazaa* users' computers. Not only will it be able to make use of your disk space, it will be capable of "borrowing" unused CPU cycles to run programs of its choice. This will, in effect, create a virtual supercomputer that can crunch huge problems. Brilliant plans to sell this capacity to its customers.

It insists that this network will be opt-in and that users will be notified before it goes live. However, examination of the *Kazaa* licence agreement reveals that, by using *Kazaa*, you also grant Brilliant the right to hijack your system with no compensation.

I'm not sure who to be more annoyed with – Brilliant or Kazaa. Since the "permission" for this mischief is embedded in Kazaa's user agreement, one would think that they had an inkling of what was going on and willfully betrayed their users. And since, according to CNET Download.com, *Kazaa* software was downloaded over 2.6 million times in a single week from its site alone. The number of compromised systems is terrifying to contemplate.

A Web search reveals that there is a way to disentangle Brilliant's software without damaging *Kazaa*, but it's convoluted and full of disclaimers (if you want to try it anyhow, you'll find it here: zdnet.com.com/2100-11-875278.html). It's apparent that the program wasn't meant to be easily removed.

If we give all concerned the benefit of the doubt and assume that users would indeed be notified, be able to opt out and would be compensated fairly for the use of their computers, a few questions still arise. How do we know, for example, that users' private files will be secure when their systems are being shared? How do we know that less savoury elements won't be able to snatch control of the machines and use them as nodes in distributed denial of service attacks? How do we know that viruses won't be introduced?

More importantly, how can we trust people who would pull a sneaky stunt like this on their users? ◆

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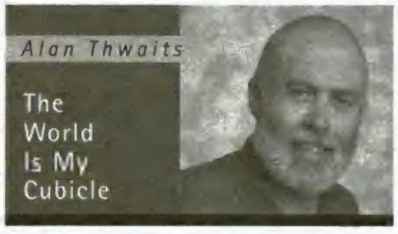
Web services: Small business made large



Personal computing has come a long way in a short time. A measure of that truth is the way in which critical new technologies are now a matter of evolution rather than revolution.The latest Next Big Step is probably something few computer users have heard of yet. It's called Web services, and is being developed, marketed and promoted by the big guns of the computing world, as well as some savvy smaller players.

In a nutshell, Web services is a set of technologies that gets around the restrictions of competing hardware platforms, operating systems and programming languages by using a Web browser as an interface and the Internet as the connection between services and users. Currently, Web services is very much a "behind the scenes" technology, but it's poised to become very big indeed. That's because Web services offers users an inexpensive version of outsourcing – companies using Web services won't need to buy (or build) and maintain their own in-house technologies for e-business applications, but will access them over the Internet, using a Web browser interface and universally accepted Internet security standards.

Most visible among Web services technologies is Microsoft's .Net initiative. .Net is an add-on run-time environment that runs on Microsoft's Windows 2000 operating system. It is based on existing Internet standards such as XML (eXtensible Markup Language, an advanced Web design language) and SOAP (Simple Object Access Protocol, an XML-based protocol for exchanging information) and is the basis of Microsoft Web services applications such as MS Passport, which automates the process of verifying the identity of individual Internet users.

IBM has been in the Web services game for a little bit longer, with its WebSphere family of products. WebSphere tools are based on J2EE (Java 2 Platform, Enterprise Edition), with the result that tools developed and marketed under WebSphere will serve users across divergent platforms.

But .Net and WebSphere, excellent technologies though they are, exist at the high end of the market. What's particularly exciting for the rest of us (assuming that most of the readers of this column aren't big time enterprise IT types) is that affordable Web services offerings are increasingly coming on the market for the rest of us.

One of those offerings is Pathway Communications' Webdesk (see www.pathcom.com/webdesk/). It's certainly affordable – a $25 setup fee, and then $14.99 per month for a five seat (user) package. For that, Webdesk offers a business-oriented communication and collaborative tool bundle that includes a calendar/scheduler, contact manager, file sharing, chat, internal e-mail, polls, discussion groups and more. It's aimed at the small- to medium-sized business that doesn't need or want (or perhaps can't afford) a complex and pricey set of groupware technologies. The good news is that it does much the same job.

I've been testing Webdesk for the past couple of weeks. I share my Webdesk space with three colleagues. As is the case with many businesses these days, we're geographically separated, and yet we share common projects and need to coordinate our schedules. Files need to be passed back and forth, ongoing tasks need to be harmonized and meeting agendas need to be thrashed out before they happen. If we can get that kind of work done, then our face-to-face time is more efficient and productive.

So far, the results have been very promising. Webdesk offers all the tools we need to collaborate effectively. The only tools needed are an Internet connection. We can sync our *Outlook* Calendars, Contacts and ToDo lists with corresponding applications on Webdesk, which takes away the need to double-key entries. We've been able to review and revise documents and databases, engage in online chat sessions and coordinate our schedules on a real-time basis.

If Web services is the next step in computing, I'm all for it. Long live the evolution! ◆

Alan Thwaits, a *TC!* Contributing Editor, is a freelance journalist who writes about computer, communications, and business technologies. He can be reached at prax-

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Great new products from Apple

Since we last met, Apple announced a gorgeous, flat panel monitor; new remote management software; a larger-capacity iPod; and Mac/Bluetooth device connectivity. Apple is apparently doing so well that it actually raised the price of its bestselling "desk lamp" iMac model by $100 (citing increased parts costs). Despite this, the company still can't make them fast enough to keep up with demand.

New Cinema Display

A large screen is simply a necessity for many vocations. Layout artists, for example, wrestling with *Photoshop*, *Illustrator*, *XPress* and *Word* (often at the same time), or financial analysts, struggling to fit thousands of spreadsheet cells onto one screen, have oftentimes lusted after Apple's 22-inch Cinema Display.

Well, Apple's new Cinema HD Display features a stunning all-digital 23-inch flat panel display with 1,920x1,200 pixel resolution and a 16:10 aspect ratio. The screen is less than two inches thick, but sports a 160-degree viewing angle. This smart engineering move means that people viewing the display at rather oblique angles (such as the crowd that will inevitably form around your Power Mac G4 equipped with the necessary ADC connector) can still see things clearly.

If you're what Apple succinctly calls "a creative or technical professional" you'll probably be starting your Christmas wish list early this year. However, if you're buying one of these great screens for yourself, you better start saving your pennies. The new Apple Cinema HD Display should be available this month for a suggested retail price of $5,599.

Apple Remote Desktop

The company's software gnomes have also been busy releasing Apple Remote Desktop. This Mac OS X-based software package lets you remotely manage other Mac desktops anywhere on a local network, AirPort wireless network or across the Internet. Obvious applications include teachers (who can view student computer screens, perform demonstrations and provide help individually) and IT professionals (who can reconfigure system settings, provide remote help desk functions and distribute software applications).

Apple Remote Desktop supports multiple levels of administrator access, each with its own password, and can remotely control computers by locking screens, starting, restarting, sleeping or waking computers on an individual basis or for an entire workgroup or computer lab. The software is available for a suggested retail price of $479 for the 10-client edition, and $799 for the unlimited client version. Special education pricing is also available.

Apple introduces 10 GB iPod

If you've got the music in you, Apple's announcement that a second model of its trés cool iPod digital music player, featuring a 10 GB hard drive, will get you dancin' in the streets. This larger hard drive doubles the maximum number of CD-quality songs that can be loaded into an iPod, to 2,000. Plus, Apple has announced that all iPod owners can download free software that lets you transfer and store contact lists with up to 1,000 names and addresses right alongside your music!

Interestingly, Apple hasn't dropped the price of the older, 5 GB capacity iPod to make room for the new model. Instead, the new 10 GB iPod is available for a suggested retail price of $799 and the 5 GB model remains priced at $599. Both the *Contact* and *EQ* software (for customizing your music) are available for free download to current iPod owners at www.apple.com/ipod.

Bluetooth coming to a Mac near you

Apple is also previewing its OS X-based Bluetooth technology. The new software and hardware combination enables short-range wireless connectivity between a Mac and a variety of digital devices, including Bluetooth-enabled PDAs and cell phones. Apple is making a preview version of its Bluetooth software available as a free download (www.apple.com/bluetooth) and is selling a Bluetooth USB hardware adapter designed to Bluetooth-enable any USB-based Macintosh computer *running OS X version 10.1.3, for $80.* ◆

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Profile: Potentially Magic – Carla Hartsfield

Toronto-based writer Carla Hartsfield

Who: Carla Hartsfield is a Toronto-based writer whose third poetry collection is forthcoming from Brick Books in fall 2003. Her first novel, "Potential Magic" is scheduled for release next year, as well, if she can stop listening to taped versions of it in her car. Carla is also a classically trained pianist and self-taught autoharp player.

What is the computer you are now using? I'm using a HP OmniBook 4100. It has a nice, flat 14-inch screen and an interchangeable CD-ROM/floppy disk component. I bought my HP in the spring of 1999 and haven't used it that much until recently, unless I was traveling. I must pack my computer when I travel, like another person would need to pack a camera or toiletries or underwear. I like to write on trips because I'm inevitably alone on them – and would rather leap into a poem or novel chapter than watch television.

What was the first computer you used? One of the very first IBM personal computers ever made! I brought it from the U.S. when I came to Canada in 1982. I didn't know that many people at the time who owned personal computers. It was a real novelty!

Are there any other technology gadgets you are using? As an acoustic performer on piano and autoharp, I find micing at gigs to be a real challenge. If you're recording a live CD, which I've done on piano, that is one of the most challenging situations imaginable. Often the result can be disappointing if you're not working with a sound engineer who has an ear for the many harmonics a piano or harp produce. I had a gig on St. Patrick's Day, where I was going to be playing my 36-string autoharp. It's a nice Oscar Schmidt with a beautiful soundboard, top of the line, but tricky to mic. So, I bought a condenser mic in the Twelfth Fret that clips right onto the instrument. What tone! These microphones are not cheap, but if one is picky like me, it's worth it. And I've even managed to rig it so that I can use the mic for both voice and instrument.

What is the best thing about the technology you have? Because I'm a professional writer, too, I can't imagine living without a computer. When I was writing my first poetry collection all of my first drafts were in long hand, then I would transcribe them later. But, as computers got faster (and I got perhaps lazier) I started to draft my poems directly into the computer, edit there, everything.

What piece of technology can't you live without? I have always loved my tape recorders. I got my first one, an Ampex when I was fourteen with a detachable stereo mic. Tape recorders are not only great when you want to lay down an improvisation or rehearse, but I seem to need my tape recorder for writing.

Is there some piece of technology you think you need? Well, I need a new desktop, actually! Computer technology is evolving so quickly, my 1998 desktop doesn't have enough memory. I also need two really fabulous mics for my grand piano and a DAT machine.

What frustrates you most about technology? I'm not very patient, so to learn a new program or even get used to a new computer is kind of a disaster for the first day or so. I'm just too right-brained. I want the amazing result immediately. There are problems with all scoring programs, too. Inevitably you print out a song or whatever with loads of mistakes, weird sharps and flats, and you think, geez, how did that get there? Then you end up fixing it all manually. I'm still partial to scoring music the old-fashioned way as are many composers, but it's painstaking and slow. ◆

–interview by Tom Venetis

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